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CALIFORNIA STATE DAIRY COW COMPETITION, 1920-22

BY
F. W. WOLL

Some of the Trophies awarded in the Competition.

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CALIFORNIA STATE DAIRY COW COMPETITION
1920-1922

By F. W. WOLL

CONTENTS

PAGE

Rules governing the competition....188
Prizes offered....189
List of contributors....189
Entries in the competition....191
Records of production obtained....193
Discussion of results....199
  Production by breeds....199
  Highest production records by breeds....201
  Average production of cows by months....203
  Highest producing cow for each month....205
  Cows producing over 100 pounds of butter fat per month....206
Award of prizes....208
  Prizes for herd records....209
  Prizes for individual records....209
  Prizes for monthly production by grade cows....211
  Cow-Testing association prizes....211
  Miscellaneous prizes....214
Methods of feeding and handling prize-winning cows....217
Decrease in production during lactation period....222
General discussion....225
Appendix....227
  Complete list of ten-month records....227
  Award of prizes in the competition....240

The competition of which an account is given in this bulletin was similar in general scope and plan to that conducted during 1916–18.[1] Like the latter it was conducted as a phase of the educational work of the College of Agriculture for the improvement of the dairy herds of the state, and was carried on in connection with the official dairy tests and the cow-testing association work in the state. The plan of conducting a second State Dairy Cow Competition was indorsed by dairy farmers from all parts of the state in attendance at the University Farm during Stockmen's Week in February, 1920, and the rules governing the competition were adopted during the following

[1] See Bulletin No. 301, California State Dairy Cow Competition, 1916–18, by F. W. Woll, November, 1918, pp. 155–204.

month, at a conference of representative dairymen and breeders of dairy cattle meeting with members of the staff of the Division of Animal Husbandry of the College of Agriculture. The public announcement of the new competition was made in a special circular of the College[2] and in the agricultural and dairy press during the summer of 1920.

The plan decided upon provided for beginning the competition on September 1, 1920, and closing it on January 31, 1922, a total period of seventeen months, with entries to close on April 1, 1921. The only important difference between this and the first competition was that greater emphasis was placed in this competition on production records by grade and common dairy cows or herds, through more liberal and numerous prizes for groups of cows and single cows in such herds, which include over 97 per cent of the dairy cows of the state. This was done with a view to securing as large a participation as possible on the part of owners of such herds. The educational value of a competition of this kind to the large majority of our dairy farmers owning grade or common cows is readily seen. They are, as a general rule, behind owners of pure-bred stock in their methods of dairying and relatively few appreciate the very great difference in the capacity of different cows for dairy production, or the possibilities of increasing the production and returns from a dairy that may be reached through the adoption of modern methods of feeding, breeding and management. On account of their large numbers even a slight improvement in grade and common dairy herds will in the aggregate prove of great importance and lead to a marked advancement of the dairy industry of this state.

In our efforts to secure a large representation of common dairy herds in the competition we were fortunate in having the active coöperation and support of the officers and testers of the various cow-testing associations that have now been organized in most of the dairy sections of the state. Of the twenty cow-testing associations in operation during the past two years, thirteen were represented by entries of from one to seventeen different herds.

Rules Governing the Competition.—The rules governing the competition are given in the circular referred to. They were in the main those adopted for the conduct of Advanced-Registry tests of dairy cows.[3] The record period decided upon for cows in the competition

[2] Announcement of the California State Dairy Cow Competition, 1920–22, by F. W. Woll and Paul I. Dougherty, July, 1920, 8 pp.

[3] Advanced-Registry Testing of Dairy Cows, by F. W. Woll and Paul I. Dougherty, Circular 218, April, 1920, 15 pp.

was ten months (305 days), which is about the average normal lactation period of dairy cows. The reasons for adopting this period instead of one for a full year were stated in connection with the announcement of the first competition and need not be repeated here. Since ten-month records were first introduced in this country in the competition of 1916–18, they have been adopted as a prize division by our main dairy breed associations and bid fair in time to largely replace yearly records, at least in interest and importance to most breeders of dairy cattle. The production by the cows for each month was determined on the basis of tests of one or two days' duration, one day for grade or common cows, two days for pure-breds, in accordance with the rules of the various breed associations. The milk records were furnished by the officials of the cow-testing associations or by the owners and were checked up in various ways. The accumulated credits for ten consecutive months constitute the records of production of milk and butterfat considered in the competition.

Prizes Offered.—In order to make the competition of special interest to dairy farmers and to secure a large participation, numerous prizes for high records of production were provided. This was made possible through the liberality of breeders and others interested in the advancement of California dairying, who subscribed to a large prize fund or donated cash or special prizes of pure-bred bull calves, dairy apparatus or trophies. The value of all prizes offered amounted to about $5000.

List of Contributors.—The following list gives the names of the contributors to the special prize fund and donors of special prizes:

(A) *Special Prize Fund.*—Alexander & Kellogg, Suisun; Anita M. Baldwin, Santa Anita; Balfour, Guthrie & Co., San Francisco; Burr Creamery Co., Los Angeles; "Calf-Way" Milker Co., Berkeley; California Sales and Pedigree Co., Sacramento; California Central Creameries, San Francisco; California Jersey Breeders' Association, Berkeley; California Holstein Breeders' Association, Sacramento; J. W. Coppini, Ferndale; Geo. H. Croley Co., Inc., San Francisco; De Laval Dairy Supply Co., San Francisco; De Laval Separator Co., New York City; Empire Cream Separator Co., San Francisco; Globe Grain and Milling Company, Los Angeles; Great Western Milling Company, Los Angeles; Hollow-Hill Farm, Colton; International Harvester Co., San Francisco; Los Angeles Creamery, Los Angeles; Jordan-Hill Co., Oakland; Larrowe Milling Co., Los Angeles; J. Henry Meyer Estate, Watsonville; Millbrae Dairy, Mills Bldg., San Francisco; A. W. Morris & Sons Corporation, Woodland; Sharples Separator Co., San Francisco; Sperry Flour Co., San Francisco; F. Stenzel, San Leandro; Toyon Farm Association, San Jose; Western Creameries Co., San Francisco; W. H. Young Co., San Francisco.

(B) *Special Prizes.*—Cash prizes: "California Cultivator," Los Angeles; Humboldt County Dairy Farmers' Association, Ferndale.

Pure-bred bull calves or dairy apparatus: Bridgford Holstein Co., Patterson; Dr. H. G. Gross, Eureka; A. B. Humphrey, Escalon; Creamery Package Manufacturing Co., San Francisco.

Silver trophies: Alexander & Kellogg, Suisun; American Jersey Cattle Club, New York City; American Guernsey Cattle Club, Peterboro, N. H.; Ayrshire Breeders' Association, Brandon, Vermont; California Dairy Council, San Francisco; De Laval Dairy Supply Co., San Francisco; Holstein-Friesian Association of America, Brattleboro, Vermont; "Pacific Dairy Review," San Francisco; Country Life Department of the "Sacramento Bee," Sacramento; A. W. Scott Co., San Francisco.

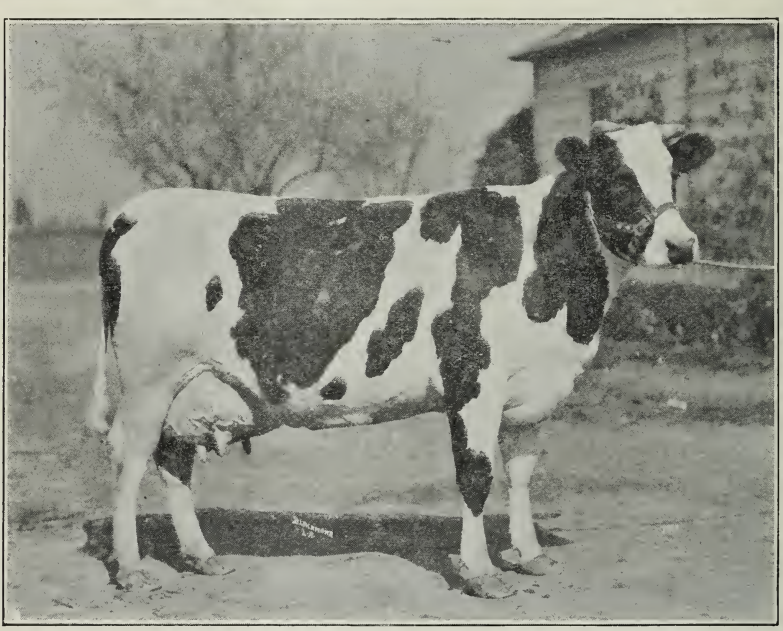

Fig. 1.—Princess Maida Veeman, 467343, Holstein; owned by Earl Graham, Compton. Winner of American Holstein-Friesian Association trophy for highest production of butter fat by a registered Holstein cow and of A. W. Scott Co. trophy for highest production of milk by a cow, irrespective of her breeding: 26119 lbs. milk, 798.15 lbs. butter fat, av. test, 3.06 per cent, at 3 yrs. 5 mos. old (credit, 941.82 lbs. butter fat).

Seventy different prizes were offered, of which all but a series of seventeen monthly prizes were awarded at the close of the competition for ten-months' records of production of butter fat (or milk in one case). The monthly prizes were awarded during the progress of the competition for the highest average production of five grade cows during each month. The detailed list of prizes will be found in the Appendix in connection with the awards.

The work of cow-testing associations was recognized by the award of three trophies for the largest average production of herds of differ-

ent sizes. Association records for a full testing year were considered in the award of these prizes. All other tests were conducted by regular supervisors of dairy tests employed by the College in connection with advanced-registry testing or by testers in charge of cow-testing associations, under similar rules as those governing the advanced-registry tests, except that the monthly tests, as a rule, were for one day only in the case of grade cows or herds.

Entries in the Competition.—Entries in the competition were open to owners of all kinds of cows in the state, pure-breds, grades and common cows. The competition opened on September 1, 1920, with an

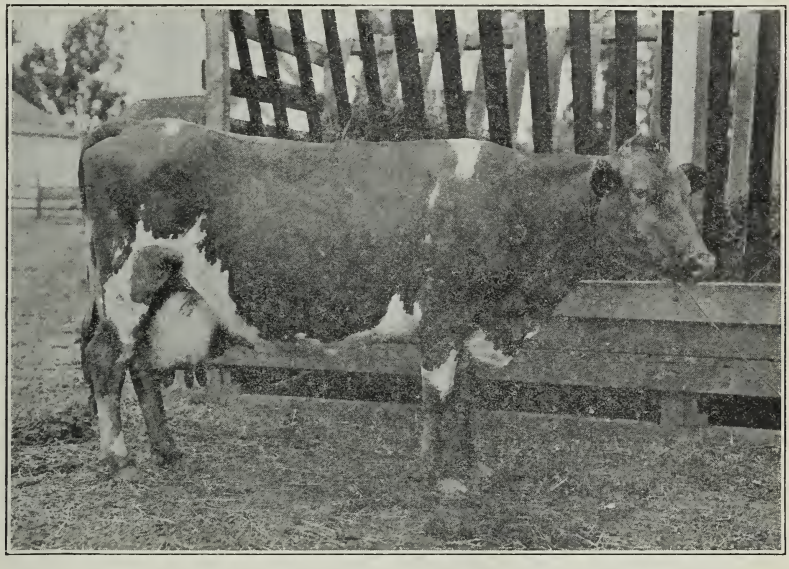

Fig. 2.—Jim's Wonder, grade Jersey; owned by H. L. Wakeham, Santa Ana. Winner of second prize for production of butter fat by a grade cow, 16939 lbs. milk, 795.53 lbs. butter fat, av. test, 4.70 per cent, at 5 yrs. 7 mos. old. The highest producing grade cow in the competition.

enrollment of sixty-seven cows. Month by month an increasing number of cows was entered until by the time the entries closed on April 1, 1921, the number had reached 1334. Of this number 537 cows were in herds belonging to cow-testing associations entered in competition for the special prizes provided for such herds, and 797 cows were entered in competition for ten-month and, incidentally, for monthly records. Of the total number of cows entered 285 were pure-breds and 1049 were grade or common cows. All herds competing for cow-testing association prizes were located in Humboldt County, while the cows or herds entered for ten-month records were scattered all

over the state in twenty-one different counties, from Del Norte and Humboldt counties in the north to San Diego and Imperial counties in the south, and represented greatly differing types of dairy farming.

Seventy-one different breeders entered their cows in the competition, but a number found it necessary to withdraw during its progress, for a variety of causes more or less unexpected at the beginning, such as labor shortage, business changes, feed conditions, etc. Five hundred and ninety-six cows owned by 54 different breeders completed

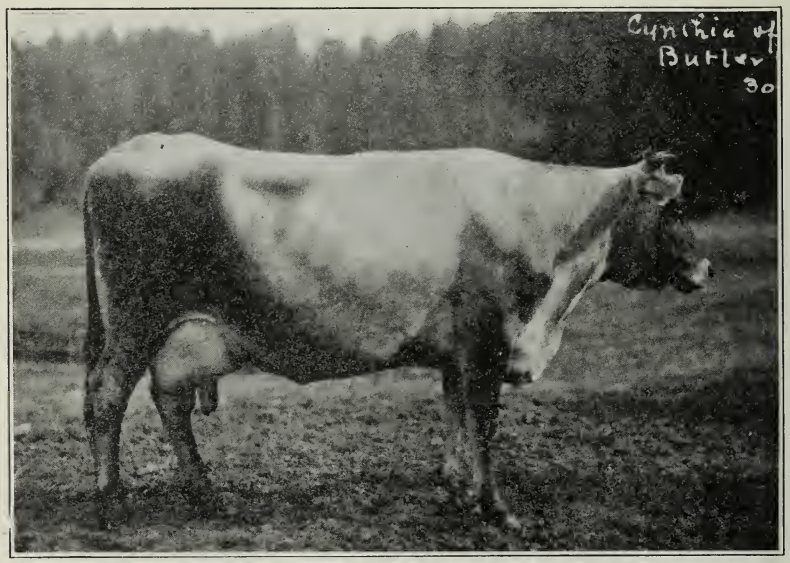

Fig. 3.—Cynthia of Butler Valley, 309344, Jersey; owned by H. G. Gross, Eureka. Production: 12027 lbs. milk, 618.65 lbs. butter fat, av. test, 5.14 per cent, at 7 yrs. 8 mos. old; dam of Cynthia's Raleigh Girl, 449974. (See Fig. 4.)

ten-month records, and yearly records for 627 cows in 18 different herds were obtained through the coöperation of cow-testing associations. Allowing for duplications, records of production for 1047 cows in 61 different herds were thus obtained for periods of ten months or for one year, which formed the basis upon which the awards of prizes offered in the competition were made. Table I shows the distribution of these cows among the different breeds and grades, and their owners.

It will be noted that the pure-breds were represented by the following numbers of cows: Holsteins, 99; Jerseys, 80; Guernseys and Shorthorns, 14 each; and Ayrshires, 6. Among the grades the Jerseys greatly predominated, numbering 606 cows, against 170 grade Holsteins, 63 grade Guernseys, 21 grade Shorthorns, 1 grade Ayrshire,

and 130 mixed grades or so-called common or scrub cows. Two hundred and three pure-bred cows and 844 grade or common cows completed the competition record periods, a total of 1047 cows. The sixty-one owners of these cows were located as follows: Humboldt Co., 21 herds; Los Angeles Co., 12; Stanislaus, 8; San Joaquin, 4; Yolo, 3; Sonoma and Imperial, 2 each; with single representatives in the following counties: Sutter, Napa, Contra Costa, Santa Clara, Santa Cruz, Ventura, Orange, Riverside, San Diego.

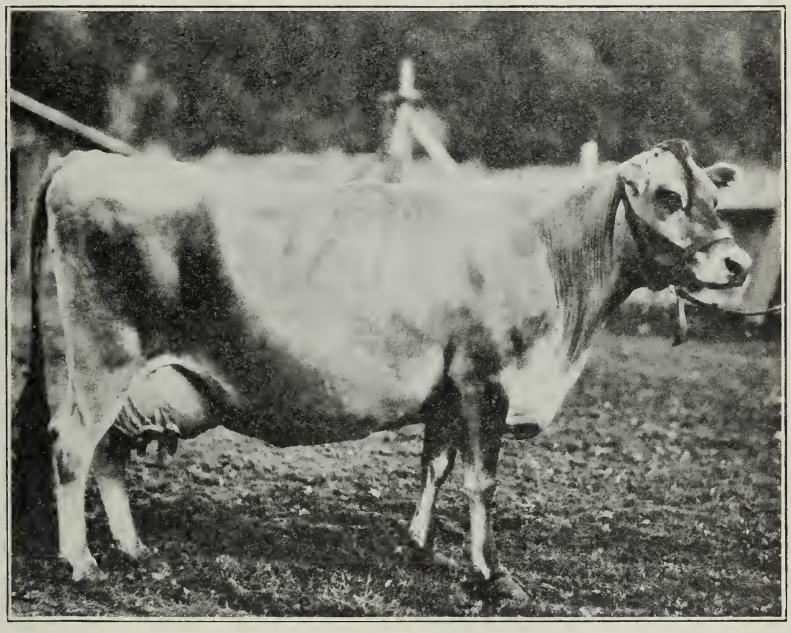

Fig. 4.—Cynthia's Raleigh Girl, 449974, Jersey; owned by H. G. Gross, Eureka. Production, 9199 lbs. milk, 509.06 lbs. fat; av. test, 5.53 per cent, at 5 yrs. 7 mos. old.

In the competition of 1916–18 complete records of production were secured for 608 cows in 34 different herds. There was, therefore, an increase of 439 in the number of records obtained and of 27 in the number of dairymen participating in this competition as compared with the previous one (72 and 79 per cent, respectively).

Records of Production.—The list of completed ten-month records obtained in the competition, arranged alphabetically according to the owners of the cows, is given in the Appendix. Table II shows the figures for the number of complete records in each herd, the ranges in production of milk and of butter fat, with highest butter fat production (actual and credited) for all cows not barred through their

Table I.—Cows Participating in California State Dairy Cow Competition, 1920-22

A.—Cows Completing Ten-Month Records

Owner's Address	County	Pure-breds					Grades						Total	
		H.	J.	G.	Sh.	Ay.	J.	H.	G.	Sh.	Ay.	Mix.	PB.	Gr.
Adohr Stock Farm, Van Nuys	Los Angeles			11					43				11	43
Arden Certified Dairy, El Monte	Los Angeles							40						40
Anita M. Baldwin, Santa Anita	Los Angeles	8											8	
Dean Beeman, Woodland	Yolo	9											9	
Berylwood Stock Farm, Hueneme	Ventura	3											3	
Eugene Biondini, Ferndale,	Humboldt						12							12
Bonnikson Bros., Ferndale	Humboldt		5										5	
N. L. Browning, Hemet	Riverside	1											1	
Burr Farm, Los Angeles	Los Angeles	12											12	
J. M. Christen, Pacheco	Contra Costa	5						14					5	14
Leo Christen, Waddington	Humboldt						2	2		1		10		15
M. P. Christensen, Norwalk	Los Angeles	1											1	
D. F. Conant, Modesto	Stanislaus		8										8	
Marguerite Conant, Modesto	Stanislaus		1										1	
J. W. Coppini, Ferndale	Humboldt		10				1						10	1
S. J. Damon, Ferndale	Humboldt						15							15
R. H. Davis, Modesto	Stanislaus	3											3	
L. A. Driver, Nicolaus	Sutter	9											9	
W. F. Early, Grizzly Bluff	Humboldt						18					6		24
M. J. & B. A. Edwards, Ripon	San Joaquin	3											3	
El Mirador Dairy, Pasadena	Los Angeles						2	9						11
C. E. Fisher, Hughson	Stanislaus						9	1	3				1	13
N. Fortini, Orland	Glenn		2										2	
S. G. Gambonini, Petaluma	Sonoma						1	9						10
Gambonini & Bolla, Petaluma	Sonoma							1			1			2
J. A. Genzoli, Loleta	Humboldt											15		15
Earl Graham, Compton	Los Angeles	5					4	17		2			5	23
H. G. Gross, Eureka	Humboldt		13										13	
J. B. Harbers, Waddington	Humboldt						15							15
Fred Hartsook, Lankershim	Los Angeles	17											17	
Nate Hauck, Alton	Humboldt						13	1				3		17
C. D. Hayworth, Modesto	Stanislaus		7										7	
Chas. F. Holman, Stockton	San Joaquin							5						5
A. B. Humphrey, Escalon	San Joaquin			2									2	
Peter Iversen, Grizzly Bluffs	Humboldt						10	3		2				15
L. A. Co. Farm, Hondo	Los Angeles	4						19					4	19
J. Henry Meyer Est., Watsonville	Santa Clara					5							5	
Guy H. Miller, Modesto	Stanislaus	4											4	
C. L. Mitchel, El Monte	Los Angeles								1			4		5
Napa State Hospital, Imola	Napa	1						7					1	7
Palo Alto Stock Farm, Palo Alto	Santa Clara	5											5	
F. F. Pellissier, Whittier	Los Angeles	5						27					5	27
M. L. Pontoni, Arcata	Humboldt						11							11
H. F. Richards, Denair	Stanislaus		8										8	
J. D. Rowe & Sons, Davis	Yolo				14								14	
Olga Saxer, Modesto	Stanislaus		1										1	
W. Terkelsen, Ferndale	Humboldt						12	2		1				15
J. E. Thorpe, Lockeford	San Joaquin		2										2	
University of California, Davis	Yolo			1		1		1					2	1
H. L. Wakeham, Santa Ana	Orange						5	1						6
R. H. Walrath, El Centro	Imperial						3	3	1	2				9
G. W. Walter, El Monte	Los Angeles											3		3
Warne & Sons, Holtville	Imperial	4											4	
Winsor Ranch, Bonita	San Diego		1				1						1	1
Totals		99	58	14	14	6	134	162	48	8	1	41	191	394

B.—HERDS COMPETING FOR COW-TESTING ASSOCIATION PRIZES

Owner's Address	County	Pure-bred Jerseys	Grades					Total	
			J.	H.	G.	Sh.	Mixed and C.	PB.	Gr.
1. Eug. Biondini, Ferndale	Humboldt	7	21					7	21
2. Leo Christen, Waddington	Humboldt						24		24
3. J. W. Coppini, Ferndale	Humboldt	10	1					10	1
4. Coppini & Coppini, Ferndale	Humboldt		51						51
5. W. Crowley, Ferndale	Humboldt	3	9					3	9
6. S. J. Damon, Ferndale	Humboldt		20						20
7. J. D. Early, Grizzly Bluff	Humboldt		52				20		72
8. J. A. Genzoli, Loleta	Humboldt						45		45
9. Giacomini & Pedrotti, Waddington	Humboldt		39	1	5	9			54
10. John Hansen, Loleta	Humboldt		103						103
11. Nate Hauck, Alton	Humboldt		16	1			3		20
12. Peter Iversen, Grizzly Bluff	Humboldt		11	2		2	2		17
13. L. J. Lindrum, Ferndale	Humboldt		32	2	1	2			37
14. S. B. Morrison, Ferndale	Humboldt		10	1	9		2		22
15. W. P. Neuhaus, Grizzly Bluff	Humboldt	2	7					2	7
16. M. L. Pontoni, Arcata	Humboldt	44							44
17. W. Terkelsen, Ferndale	Humboldt		49	1			1		51
18. Wilbur West, Waddington	Humboldt		7						7
Totals		22	472	8	15	13	97	22	605
Grand Totals		80*	606	170	63	21	138	213	999
Deducting Duplications								203	844

*Plus 99 pure-bred H., 14 pure-bred G., 14 pure-bred Sh., 6 pure-bred Ayr., and 1 Gr. Ayr.

breeding records (see below). The explanation of the two sets of figures for production of butter fat is as follows: Cows under five years old were given credit for the increase of production that would normally come with advancing age up to five years, in accordance with the average results obtained in authenticated yearly tests of pure-bred cows of different breeds, as follows: Records made by heifers under 2½ years at the beginning of the test were increased by 30 per cent, those for heifers 2½ to 3 years old by 24 per cent, for cows 3 to 3½ years old by 18 per cent, 3½ to 4 years old by 15 per cent, 4 to 4½ by 8 per cent, and 4½ to 5 years by 5 per cent.

Under the rules governing the competition, cows not safely bred within five months from last calving were barred from competing for all prizes except those awarded for monthly records and the trophies offered by the various dairy breed associations. A considerable number of cows were not with calf within the time limit set and could not therefore be considered in the award of most of the prizes offered. As might be expected, a higher percentage of heavy yielding cows than of low producers was barred for this reason, and the percentage of barred pure-bred cows was likewise higher than that of common or grade

cows, but most of the herds represented had at least one or two cows that came under the ban on account of delayed breeding. Thirty-one per cent of the pure-bred cows completing the record period were not bred within five months after calving, and 17 per cent of the grades, or 21.5 per cent of the total number of cows.

TABLE II.—COMPLETE TEN-MONTH RECORDS

Owner	Total No. of Records	Ranges in Production				Highest Fat Production by a Cow Not Barred	
		Milk, Lbs.		Butter Fat, Lbs.		Actual	Credit
		Max.	Min.	Max.	Min.		
Adohr Stock Farms	54	11903	3800	539.7	230.7	539.7	539.7
Arden Certified Dairy	40	14708	4902	647.8	213.1[1]	647.8	647.8
Anita M. Baldwin	8	20198	10050	682.5	371.0	620.9	769.9
Dean Beeman	9	21886	9585	643.5	322.2	643.5	643.5
Berylwood Stock Farm	3	19313	16851	638.9	617.3	635.3	730.6
Eugene Biondini	12	11735	7437	612.7	383.6[2]	612.7	612.7
Bonnikson Bros.	5	11504	6107	689.9	357.4	.....	.....
N. L. Browning	1	18186	.....	655.0	.....	655.0	707.4
Burr Farm	12	21579	13361	681.4	405.9	658.2	658.2
J. M. Christen	19	10579	6214	420.7	206.5[3]	420.7	483.8
Leo Christen	15	12105	7619	492.4[4]	321.2[5]	492.4	492.4
M. P. Christensen	1	20171	.....	668.9	.....	668.9	668.9
D. F. Conant	8	12492	3660	661.6	210.1	394.5	394.5
Marguerite Conant	1	7481	.....	411.4	.....	.....	.....
J. W. Coppini	11	11585	5187	652.3	285.6	652.3	652.3
S. G. Damon	15	9285	5239	422.0	299.2	422.0	422.0
R. H. Davis	3	13385	11860	453.18	431.90	453.18	534.75
L. A. Driver	9	19171	11391	560.9	401.5	560.9	560.9
W. T. Early	24	12245	4844	571.5	316.9	571.5	571.5
M. J. & B. A. Edwards	3	20839	12642	687.7	421.8	687.7	687.7
El Mirador Dairy	11	16302	7743	662.6	335.6	662.6	662.6
C. E. Fisher	13	12445	4293	497.2	243.3	497.2	586.7
M. Fortini	2	8770	7315	518.8	349.9	518.8	560.3
S. G. Gambonini	10	12513	8229	534.5	361.9	534.5	534.5
Gambonini & Bolla	2	11197	9902	407.5	389.3	407.5	468.6
J. A. Genzoli	15	12899	7140	660.5	368.9[6]	660.5	660.5
Earl Graham	28	26119	9859[7]	798.2	366.2[7]	754.0	754.0
H. G. Gross	13	12027	5405	618.7	269.0	618.7	618.7
J. B. Harbers	15	9143	5282[8]	514.9	321.9[9]	514.9	514.9
Fred Hartsook	17	23544	15061[10]	777.6	394.0[10]	777.6	839.8
Nate Hauck	17	12887	5359[2]	612.8[9]	295.5[2]	612.8	612.8
C. D. Hayworth	7	8834[11]	6031[5]	445.2[11]	286.9[5]	445.2	286.9
C. F. Holman	5	9817[12]	7085[10]	398.2[12]	283.8[10]	398.2	298.2
A. B. Humphrey	2	11456	7221[13]	587.7	379.7[13]	587.7	675.9
Peter Iversen	15	11133	7381	577.5	366.2[8]	518.4	518.4
L. A. County Farm	23	19431	8201	777.0	314.0[14]	644.6	799.3
J. Henry Meyer Estate	5	12175	7443[15]	487.1	284.0	487.1	487.1
Guy H. Miller	4	8326	5262	476.8	344.1	476.8	476.8
C. L. Mitchel	5	10930	6798[10]	430.1	301.1[10]	430.1	430.1
Napa State Hospital	8	18876	12090	666.1	405.9	666.1	666.1
Palo Alto Stock Farm	5	25106[11]	13949[16]	788.5	511.2[16]	721.0	778.7
F. F. Pellissier	32	19784	8953	666.6	312.1[17]	629.5	629.5
M. L. Pontoni	11	11939	8314	659.1	414.8[18]	659.1	659.1
H. F. Richards	8	10905	5427	597.2	336.0	597.2	597.2
J. D. Rowe & Sons	14	10553[19]	3571[20]	416.6[19]	131.5[20]	416.6	449.9
Olga Saxer	1	23587	.....	753.8	.....	.....	.....
W. Terkelsen	15	10832[21]	6067[22]	530.1[23]	358.2[22]	530.1	530.1
J. E. Thorpe	2	8126	6638	484.2	304.6	484.2	484.2
University of California	3	15650	9402	535.1	310.0	534.9	534.9
H. L. Wakeham	6	16939	8109[24]	795.5	439.7[25]	795.5	795.5
R. H. Walrath	9	13198	6814[26]	492.5	310.0[26]	646.1	646.1
G. W. Walter	3	12245	6552[12]	423.7	330.3	423.7	423.7
Warne & Sons	4	16385	12532[27]	502.7	422.0[27]	502.7	542.9
Winsor Ranch	2	9534	8995	486.1	470.0	486.1	486.1
Ranges	585	26119	3660	798.2	210.1	795.5	839.8

[1] 256 days. [2] 245 days. [3] 250 days. [4] 302 days. [5] 241 days. [6] 290 days. [7] 214 days. [8] 237 days. [9] 274 days. [10] 243 days. [11] 272 days. [12] 273 days. [13] 303 days. [14] 240 days. [15] 277 days. [16] 191 days. [17] 242 days. [18] 276 days. [19] 283 days. [20] 216 days. [21] 299 days. [22] 300 days. [23] 293 days. [24] 275 days. [25] 285 days. [26] 219 days. [27] 259 days.

Another restriction to the award of prizes was imposed in the case of pure-breds, viz., that they must produce at least 350 pounds of butter fat during the ten-month record period. This barred others but not many,—about 30 out of all the pure-breds for which complete records were obtained.

The period for entering cows in the competition extended from September 1, 1920, to April 1, 1921. Cows were entered after they freshened during this time at the option of the owner and records of production were, therefore, completed and published from month to month from July, 1921, on.

TABLE III.—RANGE IN PRODUCTION OF MILK AND BUTTERFAT

Pounds Milk	No. Cows	In Per Cent	Pounds Butter Fat	No. Cows	In Per Cent
Over 24,000	2	.3	Over 700	12	2.0
20,000-24,000	17	2.9	600-700	43	7.4
16,000-20,000	46	7.9	500-600	110	18.8
12,000-16,000	93	15.9	400-500	201	34.4
10,000-12,000	96	16.4	300-400	166	28.4
8,000-10,000	167	28.5	200-300	47	8.0
6,000- 8,000	120	20.5	Under 200	6	1.0
4,500- 6,000	38	6.5			
Under 4,500	6	1.0			
Total	585	100.0	Total	585	100.0

A wide difference in the production of the different cows occurred. This will be readily seen from Table III that gives the ranges in production of milk and butter fat by the competition cows. The records were separated into groups of over 24,000 pounds to below 4500 pounds of milk and of over 900 pounds to below 200 pounds of butter fat. The lowest ten-month milk record of a single cow was 3660 pounds and the highest, 26,119 pounds (a ratio of 1:7). The lowest production of butter fat was 210.09 pounds and the highest 798.15 pounds (a ratio of 1:3.8).

A study of the records of production obtained in the competition will show at once that most of these are remarkably high. In fact, the statement made in connection with the competition of 1916–18, that never in the history of our dairy industry have so many high production records been secured in a breed contest or a dairy competition of any kind, holds good to a still greater extent for the present competition. Seventy-two per cent of the records came above 8000 pounds of milk and 63 per cent came above 400 pounds of butter fat; 27 and

28 per cent came above 10,000 pounds of milk and 500 pounds of butter fat, respectively. In 37 out of 54 competing herds there was at least one cow, and in most of them there were several that produced over 500 pounds of butter fat during ten months. Even with liberal grain feeding throughout the year, the cost of the feed eaten by a cow capable of producing 500 pounds of butter fat or more during a normal lactation period would not exceed $130 at present prices, leaving a balance of $100 (plus the value of the calf) to pay for labor and other expenses and to yield a net profit. The calf from a pure-

Fig. 5.—Miss Aaggie Ormsby Segis, 442877, Holstein; owned by Fred Hartsook, Lankershim, winner of second prize for production of butter fat by a Holstein cow: 22072 lbs. milk, 644.86 lbs. butter fat; av. test, 2.92 per cent, at 2 yrs. 8 mos. old. (Credit, 799.63 lbs. butter fat.) World's record cow for milk in 305 days.

bred cow of this kind would, of course, be worth much more than one from a grade, but in either case there would be likely to be a handsome profit from cows of the productive capacity given. Contrary to the opinion of many dairymen, high producing cows are the most economical producers and yield the highest net returns on the investment in cows and dairy equipment, if sound business principles govern the building up and management of the dairy.

The average production for all cows for which ten-month records were obtained was as follows: 10,456 pounds of milk and 442.74 pounds of butter fat (average test, 4.23 per cent). This is almost three times the production of the average dairy cow in the state, and the maximum production of butter fat by a cow in the competition,

798.15 pounds (equivalent to over 930 pounds of commercial butter), is nearly five times that of the cows commonly found in our dairy herds. All cows completing the full record period in the competition produced considerably more butter fat in ten months than the average annual production per cow for the state.

DISCUSSION OF RESULTS

Production by Breeds.—The production by cows of the different breeds for the record period has been compiled, with results as shown in Table IV. The average amount of milk and butter fat, and the average fat content of the milk produced by the cows are given in the table, both for pure-breds and for grades of the different breeds.

TABLE IV.—AVERAGE PRODUCTION OF COWS OF DIFFERENT BREEDS

	No. of Cows	Milk, Pounds	Butter Fat	
			Per Cent	Pounds
Pure-breds				
Holstein	96	16324	3.31	540.72
Jersey	61	7921	5.53	438.03
Guernsey	14	7328	5.22	382.62
Shorthorn	14	5833	3.82	222.64
Ayrshire	6	9701	3.89	377.28
Average	191	12004	3.90	467.71
Grades and "Common" Cows				
Holstein	161	11139	3.87	430.44
Jersey	133	8673	5.08	440.20
Guernsey	48	7963	4.59	375.97
Mixed grades and Common Cows	43	9363	4.90	459.07
Shorthorn	8	10127	4.47	464.94
Ayrshire	1	11197	3.64	407.46
Average	394	9706	4.44	430.64

It will be seen that the pure-bred Holsteins had the highest average production of milk and butter fat, viz., 16,324 pounds of milk and 540.72 pounds of butter fat. The grade Shorthorns (8 cows only) ranked next in average production of butter fat, viz., 464.94 pounds. Other grades or breeds ranked in the following order: Mixed grade or common cows, grade Jerseys, pure-bred Jerseys, grade Holsteins, grade Ayrshire (one cow only), pure-bred Guernseys, pure-bred Ayrshires, grade Guernseys, and pure-bred Shorthorns.

By comparing the average production of pure-bred cows and of grades of the same breed, it will be noted that with the exception of the Holsteins whose pure-bred representatives produced over 110 pounds more butter fat than the grades, and the Shorthorns, where there was a difference of over 240 pounds in favor of the grades, there is no marked difference in the production of butter fat by the pure-breds and the grades of the various breeds. The average butter fat production for all pure-bred cows in the competition was 467.71 pounds, or 37 pounds higher than that for the grades. This indicates that the owners of the latter dairy cows were exceptionally good dairy-

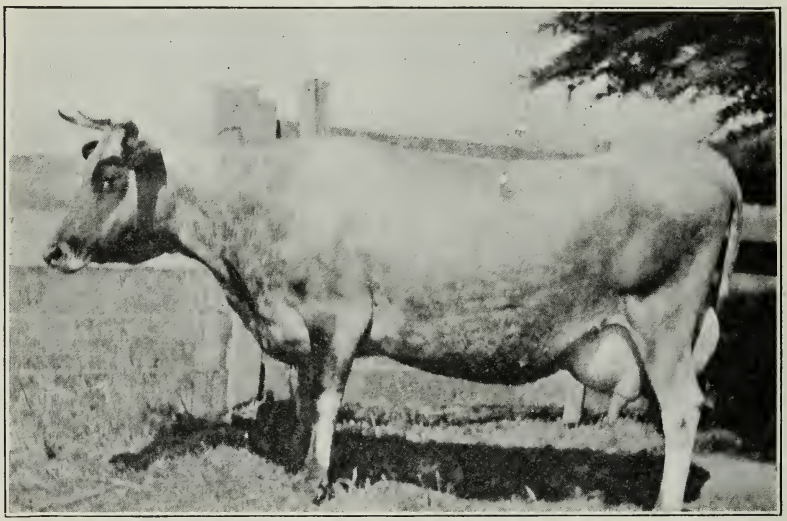

Fig. 6.—Financial C's Loretta D., 304891, Jersey; owned by Bonnikson Bros., Ferndale. Winner of American Jersey Cattle Club's trophy for highest production of butter fat by a registered Jersey cow in 10 mos., 11504 lbs. milk, 689.97 lbs. butter fat, av. test, 6.00 per cent at 8 yrs. 5 mos. old.

men since they have been able to gradually raise the standard of production by their cows far above that reached by common dairy cows, through good methods of feeding and management, including in most cases the use of a pure-bred sire at the head of the herd. The average production of the grades is more than one and one-half (169 per cent) higher than that of the average dairy cow of the state. A similar increase in the returns from our one-half million dairy cows at present prices of butter fat would amount to over $50,000,000 annually.

One would not be warranted in concluding from the figures for the average production by the various breeds that the value of these for dairy production is necessarily as indicated by the order given.

Many factors enter into the case. First of all, the average for the pure-bred Holsteins came mainly through the exceptionally high production of picked cows in the competing herds. So far as the grades are concerned, the remarkably high records reached are directly traceable to the effect of systematic testing and culling of poor cows in the herds during many years of cow-testing association work. Most dairy farmers would be well satisfied with an average production from their herd like that of cows of any one of the breeds given, whether pure-breds or grades, with one exception. The differences shown are due to more or less accidental causes and the results can, therefore, only in a general way be taken to indicate the relative value of the

Fig. 7.—Ayrshire cows owned by J. Henry Meyer Estate, Watsonville. In foreground, Finlayston's Annie Laurie, 36968; winner of first prize for production of butter fat by an Ayrshire cow and of the Ayrshire Breeders' Association trophy for the same production: 12175 lbs. milk, 487.05 lbs. butter fat, av. test, 4.00 per cent, at 8 yrs. 7 mos. old.

Bright Eyes of Highland, 38116, in foreground to left; winner of third prize for production of butter fat by an Ayrshire cow, 11,110 lbs. milk, 442.60 lbs. butter fat, av. test, 3.98 per cent, at 8 yrs. 2 mos. old.

different breeds for dairy production. They do not in any case disclose the relative economy of production by cows of different breeds, since accurate data as to the amounts of feed eaten in most of the competing herds could not be secured.

Highest Production Records by Breeds.—The records of the highest producing cows of each breed represented in the competition and of the grade cows are given in Table V.

Under the rules governing the competition the four-year-old Holstein Bessie Snowball DeKol (owner, Fred Hartsook), received a higher credit for butter fat production than the actual production

TABLE V.—HIGHEST RECORDS OF PRODUCTION BY BREEDS

Breed	Name of Cow	Owner	Age Yr. Mo.	Milk, Pounds	Butter Fat		
					Per Cent	Pounds	Credit, Pounds
Ayrshire	Finlayston's Annie Laurie	J. Henry Meyer Est.	8—7	12176	4.00	487.05	487.05
Guernsey	Calla Grove Itchen May	A. B. Humphrey	3—9	11456	5.13	587.73	675.89
Holstein	Princess Maida Veeman	Earl Graham	3—5	26119	3.06	798.15	941.82
Jersey	Financial C's Loretta D.	Bonnikson Bros.	8—5	11504	6.00	689.97	689.97
Shorthorn	Alma	J. D. Rowe & Sons	4—6	10553	3.95	416.62	449.95
Grade	Jim's Wonder	H. L. Wakeham	5—7	16939	4.70	795.53	795.53

of the mature cow given, viz., 839.83 pounds. In the same way the grade Holstein heifer Princess (owner, Los Angeles County Farm), while producing less butter fat, received credit for a higher production than that of the grade Jersey, Jim's Wonder, viz., 799.27 pounds. Two of the cows given in the table, the Jersey and the Holstein, were barred from competing for prizes on account of their breeding records.

Average Production of Cows by Months.—The average monthly production of milk and butter fat for the cows during the competition

TABLE VI.—AVERAGE PRODUCTION BY MONTHS

	No. of Cows	Average Distance from Calving, Days	Average Production			No. over 50 Pounds	Per Cent of all Records over 50 Pounds
			Milk, Pounds	Butter Fat, Pounds	Per Cent		
1920							
September	67	50	1303	55.13	4.23	28	42
October	124	55	1272	51.06	4.01	50	40
November	144	67	1284	50.81	3.96	45	31
December	166	78	1377	55.06	4.00	80	48
1921							
January	210	88	1275	53.80	4.22	114	54
February	246	100	1107	45.80	4.14	83	34
March	372	110	1233	49.83	4.04	169	45
April	543	92	1293	49.43	3.82	250	46
May	618	117	1243	50.66	4.04	294	48
June	622	140	1096	45.53	4.15	223	36
July	539	151	1072	46.91	4.38	173	32
August	484	172	1035	44.21	4.27	132	27
September	399	194	897	40.32	4.50	81	20
October	357	215	821	38.49	4.69	59	17
November	282	230	716	35.44	4.95	33	12
December	225	253	547	30.08	5.50	11	4
1922							
January	56	256	700	33.58	4.80	5	9
Ranges:							
Min.			547	30.08		5	4
Max.			1377	55.13		294	54

was calculated each month for all cows whose milk records were transmitted prior to the 15th of the following month. The data so obtained are presented in Table VI.

It will be noted that the number of cows included gradually increased from 67 in September, 1920, to 622 in June, 1921, from which time there was a steady decrease in the number of monthly records obtained, on account of the withdrawal of cows that completed their

TABLE VII.—HIGHEST PRODUCING COW FOR EACH MONTH

Month	Name of Cow	Owner	Breed	Milk, Pounds	Production		
					Per Cent	Butter Fat, Pounds	Ten-Month Record
1920							
September	Johanna Hengerveld Capuna	Dean Beeman	H.	2198	4.7	103.99	613.93
October	Rose	Earl Graham	Gr. Sh.	2099	5.4	113.35	685.92
November	Domino	L. A. Co. Farm	Gr. H.	2008	4.2	84.34	493.14
December	Ventura	L. A. Co. Farm	Grade	1973	5.0	98.65	448.18
1921							
January	Lady Kate's Rosette	D. F. Conant	J.	1714	5.9	101.27	661.64
February	Princess Maida Veeman	Earl Graham	H.	2858	3.8	109.16	798.15
March	Alta Papoose	Palo Alto Stock Farm	H.	2929	4.1	118.93	720.99
April	Jim's Wonder	H. L. Wakeham	Gr. J.	2088	5.0	104.40	795.53
May	Jim's Wonder	H. L. Wakeham	Gr. J.	1993	5.2	103.64	795.53
June	Kiatta Pontiac Pride	Palo Alto Stock Farm	H.	3652	2.7	100.06	712.90
July	Dollie	J. A. Genzoli	Grade	1627	5.3	86.23	588.94
August	Brindle	Nate Hauck	Gr. J.	1810	5.2	94.12	612.75
September	Kiatta Pontiac Pride	Palo Alto Stock Farm	H.	2756	2.9	79.64	712.90
October	Brindle	Nate Hauck	Gr. J.	1512	5.2	78.62	612.75
November	Lady Lelith Walker De Kol	Anita M. Baldwain	H.	2116	3.9	83.58	593.22
December	Lady Lelith Walker De Kol	Anita M. Baldwin	H.	2099	3.6	74.73	593.22
1922							
January	Lady Lelith Walker De Kol	Anita M. Baldwin	H.	2072	3.8	79.55	593.22
		Average		2201	4.4	97.88	643.77

record periods during the subsequent months. The average production of butter fat of the cows came above 55 pounds in September and December, 1920; it exceeded 50 pounds six times and 40 pounds every month but the last four, when it went down to 30 pounds for cows that were about eight and one-half months advanced in their lactations. The number of records over 50 pounds ranged from 294 in May, 1921, to five in January, 1922 (48 and 9 per cent, respectively, of the total number). About one-third of the monthly records were above 50 pounds during the first eleven months of the competition.

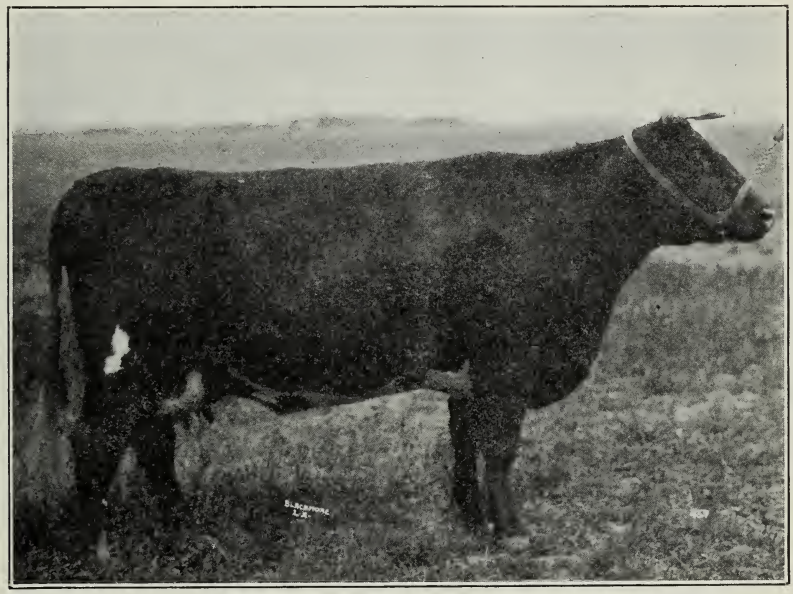

Fig. 8.—Alma, 577635, Dairy Shorthorn, owned by John D. Rowe & Sons, Davis, Lessees. Winner of Alexander & Kellogg trophy for highest production of butter fat by a Shorthorn cow, also of second individual cash prize for same production of butter fat by a Shorthorn cow: 10,553 lbs. milk, 416.62 lbs. fat, av. test, 3.95 per cent, at 4 yrs. 6 mos. old (credit, 449.95 lbs. butter fat).

Highest Producing Cows for Each Month.—Table VII shows the cows that produced most butter fat during each month of the competition, the name of the owner, breed, days in milk, and production of milk and butter fat being given in each case. All these cows completed ten-month records and their production for this period is also given. It is of interest to note that the ten-month records, in general, varied with the monthly production and that they are with one exception very high, ranging from 448.18 to 798.15 pounds of butter fat; the average for the twelve cows for which complete records were

obtained being 643.77 pounds of butter fat (equivalent to over 750 pounds of commercial butter) for ten months, and 98.71 pounds of butter fat (equivalent to about 115 pounds of butter) per month.

Cows Producing Over 100 Pounds of Butter Fat a Month.—In this connection reference may be made to Table VIII, giving a list of the cows that produced over 100 pounds of butter fat during any one month of the competition. We note that the ten cows included in this list produced, on the average, 108.38 pounds butter fat per month (ranges, 101.27 to 121.27 pounds) and 676.76 pounds for the ten-month period (ranges, 511.17 pounds to 798.15 pounds). The record cow among the grades, Jim's Wonder, is the only cow in the list that produced over 100 pounds butter fat during more than one month;

Fig. 9.—A southern California dairy ranch (F. F. Pellissier, Whittier). Among the pure-bred and grade Holstein cows in foreground, 32 completed 10-mos. records in the Competition; 25 of these exceeded 400 lbs. of butter fat and 11 exceeded 500 lbs. (U. C. Range, 627.67–312.13 lbs.). Five grades were winners of the California Cultivator prize for March, 1921 (see p. 210).

she has the distinction of having produced more butter fat in 120 days (February to May, 1921, inclusive) than any other cow in the competition, as will be seen from Table VIII, viz., 418.35 pounds butter fat, an average of 104.59 pounds butter fat and 2118.5 pounds milk per month. (See Fig. 2.)

She produced 86.1 pounds butter fat in June and 53.66 pounds in July, having been thrown "off feed" by too heavy feeding of mangels. Her ten-month record aggregated 795.53 pounds butter fat, however, on two-times-a-day milking. Her dam, a grade Shorthorn, was a good cow, but generally dried up after milking five to six months. She was not tested. The sire of Jim's Wonder was a pure-bred Jersey bull, Lassie Newport Golden Lad, 167,868. Jim's Wonder was bred March 3, 1921, and gave birth to a heifer calf on December 4, 1921, within a year after the preceding calving. In spite of an attack of

Table VIII.—Cows Producing Over 100 Pounds Butterfat per Month.

Name	Breed	Age Yr. Mo.	Month	Days from Freshening	Production, Pounds		Per Cent Fat	Total Record for 305 Days			Owner
					Milk	Butter-Fat		Milk, Pounds	Fat, Pounds	Per Cent Fat	
Pure-Breds											
Mabel Aouda, 178730	H.	8—10	Nov. '20	35	2630.6	121.27	4.61	20198	682.51	3.39	Anita M. Baldwin
Johanna Hengerveld Capuna 345454	H.	4—10	Sept. '20	10	2198.5	103.99	4.73	18434	613.93	3.33	Dean Beeman.
Princess Maida Veeman, 467343	H.	3— 5	Feb. '20	7	2857.6	109.16	3.82	26119	798.15	3.06	Earl Graham
Alta Papoose, 412861	H.	4— 0	Mar. '21	20	2929.4	118.93	4.06	20834	720.99	3.47	Palo Alto Stock Farm
Kiatta Pontiac Pride, 426267	H.	4— 2	May '21	5	2817.4	103.96	3.69	25106[1]	712.90[1]	2.83	Palo Alto Stock Farm
Alta Johanna Princess, 394126	H.	3—11	Mar. '21	37	2522.8	107.72	4.27	13949[2]	511.17[2]	3.67	Palo Alto Stock Farm
Moorland Col. Rose, 380984	H.	3—11	Jan. '21	19	2953.3	107.21	3.63	23587	753.75	3.20	Olga Saxer
Lady Kate's Rosette R.S.M., 361239	J.	6— 5	Jan. '21	18	1713.6	101.27	5.91	12492	661.64	5.30	D. F. Conant
Grades											
No. 241	H.	10—	Jan. '21	121	1888	105.73	5.6	12179	517.06	4.25	Arden Certified Dairy
Jim's Wonder	J.	5— 7	Feb. '21	42	2276	106.97	4.7	16939	795.53	4.70	H. L. Wakeham
Jim's Wonder	.....	.....	Mar. '21	70	2117	103.34	4.9				
Jim's Wonder	.....	.....	April '21	131	2088	104.40	5.0				
Jim's Wonder	.....	.....	May '21	161	1993	103.64	5.2				
Average Production				37	2462.9	108.38	4.40	1898.4	676.76	3.56	

[1] In 272 days. [2] In 191 days. [3] In 242 days.

milk fever and later one of garget, she produced considerably over 100 pounds of butter fat during each of the first two months of her present lactation period, thus fully justifying her name by her production records both last and this lactation period.

Fig. 10.—Lady Mc, gr. Jersey (first cross from a Shorthorn cow and a pure-bred Jersey bull); owner, J. W. Coppini, Ferndale. "The dam of this cow could not produce 250 lbs. fat in one year. Lady Mc's production for 10 mos. was 11585 lbs. milk and 505.21 lbs. fat; av. test, 4.36 per cent, at 16 yrs. 8 mos. old. She has given birth to 15 calves and has an average production of 467 lbs. butter fat for 15 lactations."

AWARD OF PRIZES

The awards of prizes offered in the competition were made on February 17, 1922, by a committee consisting of Gordon H. True, head of the Division of Animal Husbandry of the College of Agriculture, the writer, and three breeders nominated by the dairymen participating in the competition, Messrs. Frank L. Morris, Woodland; Judge Peter H. Shields, Sacramento; and A. B. Humphrey, Escalon. Two of the members were unable to meet with the committee when the awards were made, Mr. Morris being the only representative of the dairy breeders present. The results of the decisions of the committee were announced at the evening session of the Dairy Farmers' Conference during the Stockmen's Week at University Farm, February 23, when the prizes were presented to the winners by Professor True

in behalf of the College of Agriculture. The complete list of awards will be found in the Appendix. The awards of some of the more important prizes are given in the following pages with brief discussions of the production of the prize-winning cows.

Prizes for Herd Records.—The largest cash prizes offered in the competition were the so-called herd prizes awarded for the highest average production of butter fat by ten cows in a herd; twelve such prizes aggregating $1950 in value were offered, viz., one of $300, four each of $200 and $100, and three of $150. Owing to a lack of qualified competitors, five of these prizes were not awarded. The awards went to the breeders given in Table IX.

TABLE IX.—PRIZES FOR HERD RECORDS

	Average Production per Cow		
	Milk, Pounds	Butter Fat, Pounds	
		Actual	Credit
I. *Jerseys* or *Guernseys:*			
First Prize—H. G. Gross	8451.5	472.15	523.87
Second Prize—J. W. Coppini	7821.0	456.78	502.79
II. *Holsteins:*			
First Prize—Fred Hartsook	18809.6	589.07	634.89
Second Prize—Burr Farm	16696.7	527.96	599.88
III. *Grades* or *Common Dairy Cows:*			
First Prize—Earl Graham	14110.7	555.39	642.0[illegible]
Second Prize—J. A. Genzoli	10081.1	568.50	595.22
Third Prize—Nate Hauck	10676.2	513.27	563.51

Prizes for Individual Records.—Sixteen prizes were offered for records of production by individual cows, viz., four each for $100, $75, $50, and $25. The awards of these prizes were made as given in the Appendix, page 241. It will be noted that the four prizes for records made by Jersey or Guernsey cows were won for a production of 652 to 505 pounds butter fat (credit 679.49 to 626.26 pounds; owners of winning cows, H. G. Gross, A. B. Humphrey and J. W. Coppini); those for records by Holsteins were won for a production of 777 to 620 pounds (credit 839.8 to 770 pounds; owners, Fred Hartsook, Palo Alto Stock Farm, and Anita M. Baldwin); those for records by Ayrshire and Dairy Shorthorns were won for a production of 487 to 396 pounds (owners, J. Henry Meyer Estate and John D. Rowe and Sons), and those for records by grades and cows of unknown breeding were won for a production of 795 to 567 pounds (credit,

TABLE X.—WINNERS OF CALIFORNIA CULTIVATOR MONTHLY PRIZE, SEPTEMBER 1920—JANUARY 1922

Month	Name of Owner	Breed	Days in Milk	Milk, Lbs.	Butter Fat			Butter Fat, Lbs.	
					Per Cent	Pounds	Credit	Maximum	Minimum
1920									
September	Chas. F. Holman	H.	36	1296.6	5.35	69.38	71.05	85.2	54.9
October	Earl Graham	4 H., 1 Sh.	91	1958.4	4.25	83.26	83.26	113.3	68.3
November	L. A. Co. Farm	H.	41	1740.1	4.01	69.81	75.09	84.3	54.0
December	Earl Graham	4 H., 1 J.	31	2112.0	3.60	75.96	83.49	91.9	64.3
1921									
January	L. A. Co. Farm	H.	7	1720.0	4.56	78.45	86.33	86.3	65.1
February	Earl Graham	4 H., 1 J.	24	1807.0	3.43	62.03	71.09	80.0	55.7
March	F. F. Pellissier	H.	38	2014.0	3.76	75.70	75.70	77.8	72.9
April	J. A. Genzoli	'Common'	25	1577.4	5.26	83.04	83.04	92.9	75.9
May	Eug. Biondini	4 J.	45	1533.4	5.36	82.26	82.26	89.9	76.9
June	N. Hauck	1 'Common'	39	1693.4	4.43	74.93	79.50	91.8	62.7
July	W. Terkelsen	J.	96	1220.2	5.42	66.16	74.39	76.9	60.8
August	Eug. Biondini	J.	117	1253.2	5.69	71.26	71.26	86.1	56.8
September	N. Hauck	4 J., 1 H.	126	1216.2	4.86	59.16	62.70	67.9	52.1
October	Earl Graham	4 H., 1 Sh.	168	1254.2	4.60	57.73	61.05	69.6	49.0
November	W. F. Early	2 J., 3 Gr.	245	660.0	7.38	48.72	48.72	58.8	40.2
December	Peter Iversen	2 J., 2 H., 1 Sh.	250	706.4	6.88	48.62	54.17	54.1	43.1
1922									
January	M. L. Pontoni	J.	276	712.6	6.11	43.56	44.75	58.0	37.0
			97	1439.7	4.70	67.65	.....	113.3	37.0

799.3 to 738.3 pounds; owners, Los Angeles County Farm, H. L. Wakeham and Earl Graham).

Prizes for Monthly Production by Grade Cows.—A series of prizes for the highest average production of butter fat by five grades in the herd for each month during the competition was offered by California Cultivator Publishing Company, of Los Angeles. Table X gives the awards of these prizes, with accompanying information as to the prize winners and their production.

Fig. 11.—"Holstein," gr. Holstein, owned by Peter Iversen, Grizzly Bluff. One of the five grades that won the California Cultivator prize for Dec., 1921. Production at 4 yrs. old, 8928 lbs. milk, 498.94 lbs. fat, av. test, 5.59 per cent (credit, 573.78 lbs.).

It will be noted that the average monthly production of butter fat by five grades varied from 43.56 pounds (for cows 276 days in milk, on the average) to 83.26 pounds, with an average of 67.65 pounds for the seventeen months. The production of the individual grades included in the groups ranged from 37.0 to 113.3 pounds. No cow was considered more than once in the award of these prizes. The monthly prizes were won nine times by Humboldt County dairymen (seven different farmers), seven times by Los Angeles County dairymen (three different farmers), and once by a San Joaquin County dairyman. They were won by ten different dairymen, viz., four times by Earl Graham, and twice by Los Angeles County Farm, Nate Hauck, and Eugene Biondini, five other dairymen capturing it once.

Cow-Testing Association Prizes.—Three prizes for yearly records made by herds belonging to a cow-testing association were offered by the Country Life Department of the Sacramento Bee, Sacramento

California; one each for herds of less than twenty-five cows, of 26 to 50 cows, and of over 50 cows. Eighteen herds competed for these prizes, of which seventeen belonged to the Ferndale Cow-Testing Association and one to the Arcata Cow-Testing Association. The average production of milk and butter fat by these herds is given in Table XI.

TABLE XI.—COMPETITION FOR PRIZES FOR YEARLY RECORDS MADE BY HERDS IN COW-TESTING ASSOCIATIONS OFFERED BY THE COUNTY LIFE DEPARTMENT OF THE SACRAMENTO BEE, SACRAMENTO.

	No. of Cows	Average Production		
		Milk, Pounds	Butter Fat	
			Per Cent	Pounds
a. Less than 25 Cows in Herd:				
1. J. W. Coppini, Ferndale*	11	9504	5.72	494.39
2. Peter Iversen, Grizzly Bluff	17	9290	5.23	485.91
3. Nate Hauck, Alton	20	8906	4.91	437.68
4. Wilbur West, Waddington	7	8333	4.98	414.88
5. S. B. Morrison, Ferndale	22	7672	5.02	385.12
6. Leo Christen, Waddington	24	8792	4.32	379.04
7. W. P. Neuhaus, Grizzly Bluff	9	6921	5.15	356.65
8. S. J. Damon, Ferndale	20	6877	5.26	356.41
9. W. Crowley, Ferndale	12	6925	5.12	354.27
Average (9 Herds)	16	8136	5.00	407.15
b. 26-50 Cows in Herd:				
10. J. A. Genzoli, Loleta*	45	8412	5.27	444.57
11. Eug. Biondini, Ferndale	28	7409	5.67	419.78
12. L. J. Lindrum, Ferndale	37	8173	5.05	412.61
13. M. L. Pontoni, Arcata	44	7698	4.73	363.91
Average (4 Herds)	38	7923	5.18	410.22
c. Over 50 Cows in Herd:				
14. J. D. Early, Grizzly Bluff*	72	8345	4.76	397.12
15. Coppini & Coppini, Ferndale	51	7599	5.19	394.37
16. Giacomini & Pedrotti, Waddington	54	7410	4.96	367.46
17. W. Terkelsen, Ferndale	51	7206	5.03	362.66
18. John Hansen, Loleta	103	6124	5.07	310.77
Average (5 Herds)	66	7337	4.99	366.48

*Winner of prize.

A comparison of the records made by the herds competing for the three cow-testing association prizes in this and in the first competition will disclose the fact that the average butter fat production of the small, medium and large herds in this competition was 13, 37, and 13

pounds, respectively, lower than for the corresponding herds in the first competition. Each of the groups included only three herds in the first competition, but of the four herds entered in both competitions only one had a higher average production this time than in 1916–18. The average production of the competing herds is probably as high as has ever been reached by a similar number of herds in a cow-testing association of similar size. Two herds reached nearly 500 pounds of butter fat per cow for the year, five ranged between 444 and 412

Fig. 12.—Noble's Sayda Polo, 307199, Jersey, owned by J. W. Coppini, Ferndale, winner of third prize for production of butterfat in class 5; 9120 lbs. milk, 652.27 lbs. fat; av. test, 7.15 per cent, at 6 yrs. 7 mos. old.

pounds, ten between 400 and 350 pounds, and only one herd (of 103 cows) averaged as low as 310 pounds of butter fat, which is, however, nearly twice the average annual production of the dairy cows of the state. The average production for all eighteen herds was close to 400 pounds butter fat per cow.

All the owners but one were members of the oldest cow-testing association in the state, that of Ferndale, Humboldt County, which has been in continuous operation since February, 1909. The other association represented was organized in March, 1919. It is no accident that these Humboldt County herds rank high in average production. The effect of the cow-testing association work is cumulative;

it gives the dairyman definite knowledge of the production of his cows from year to year, and shows him which are, and which are not, profitable producers. He is able, therefore, to dispose of the latter kind and thus gradually raise the production of his herd. The importance of well-bred dairy bulls for increasing the production of the herd is also brought home with increasing emphasis each year by the results of cow-testing association work. The showing made in both

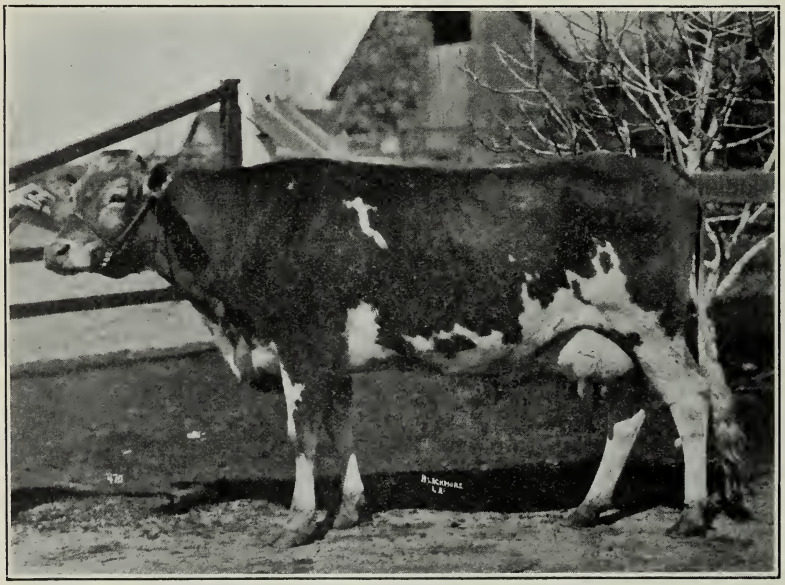

Fig. 13.—Calla Grove Itchen May, 73356, Guernsey, owned by A. B. Humphrey, Escalon. Winner of second prize for production of butter fat in class 5; 11,456 lbs. milk, 587.73 lbs. butter fat; av. test, 5.13 per cent, at 3 yrs. 9 mos. old; also won the A. G. C. C. trophy for the highest record by a registered Guernsey cow.

this and the previous competition by the herds belonging to the Ferndale Cow-testing Association furnishes a striking illustration of the value of continued association work to the members and to the dairy industry of the state.

Other prizes were awarded as follows:

Registered Bull Calves.—For the highest average production of butter fat in ten months by a grade or common dairy herd of less than 25 cows, choice of a Jersey, Guernsey and Holstein bull calf, won by Nate Hauck, P. Iversen and S. J. Damon, respectively, for an average production by their cows of 513 to 377 pounds butter fat (credit, 563.5 to 432.1 pounds).

Babcock 24-Bottle Hand Tester.—For the pure-bred dairy herd having the largest proportion of complete records over 300 pounds of butter fat for ten consecutive months, awarded to Fred Hartsook (17 records).

Prizes for Humboldt County Cows.—For the highest production of butter fat by three Humboldt County cows (cows winning other individual prizes barred), won by three grade or common cows producing 660 to 631 pounds butter fat (owners, J. A. Genzoli, M. L. Pontoni, and Nate Hauck).

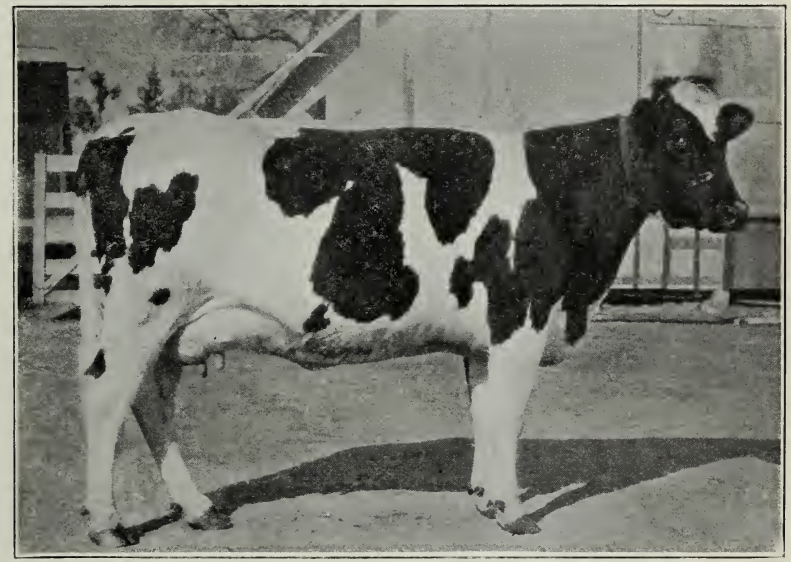

Fig. 14.—Princess, grade Holstein, owned by the Los Angeles County Farm. First prize for grade cows of common breed. Production at 3 years old, 16,143 lbs. milk, 644.57 lbs. butter fat (average test 3.99 per cent); credit, 799.27 lbs.

Prizes for Cow-Testing Association Testers.—Three prizes of $100, $75 and $50 each were awarded to association testers for the three highest numbers of complete ten-month records in herds tested by them. These were won by C. A. Casanova of Ferndale Cow-Testing Association (107 records), L. J. Birge of Los Angeles Cow-Testing Association (83 records), and Sam H. Moore, also of the Los Angeles Cow-Testing Association (59 records).

Silver Trophies: A. W. Scott Trophy.—For the highest production of milk during ten consecutive months by a cow irrespective of her breeding, won by Princess Maida Veeman for a production of 26,119 pounds of milk (test, 3.06 per cent, 798.15 pounds butter fat, owner Earl Graham).

De Laval Separator Company Trophy.—For the herd having the largest number of records over 300 pounds of butter fat, won by Adohr Stock Farms (47 records).

California Dairy Council Trophy.—For the herd having the next to the largest number of records over 300 pounds of butter fat, won by Arden Certified Dairy (36 records).

Pacific Dairy Review Trophy.—For the highest average production of butter fat in ten months by a grade herd (not less than 4 cows), all daughters of a single pure-bred sire: won by Nate Hauck for an average production of 479.2 pounds by eight daughters of the Jersey bull, Chief Alton, 123,772. The production of the individual daughters is given in Table XII.

TABLE XII.—PRODUCTION BY DAUGHTERS OF CHIEF ALTON, 123772

Name	Age, Years	Milk, Pounds	Butter Fat		
			Per Cent	Actual, Pounds	Credit, Pounds
1. Brownie	6	11093	5.25	581.95	581.95
2. Slow	4	10359	5.26	544.94	626.68
3. Nigger	4	11954	4.48	535.00	615.25
4. Speck	6	11366	4.59	522.09	522.09
5. Lily	4	8272	5.69	470.01	540.51
6. Chub	5	8856	5.03	445.35	445.35
7. Bird	6	8690	5.05	438.81	438.81
8. Sister	5	5359	5.51	295.46	295.46
Average	5	94936	5.05	479.20	508.26

In the opinion of the writer this is one of the most important prizes offered in the competition. It emphasizes the value of a good pure-bred sire in building up a dairy herd. To develop a considerable number of grade daughters of a bull so that they will average over 479 pounds of butter fat in ten months is an accomplishment of which any breeder of dairy cattle might well be proud, particularly in view of the fact that one-half of the number averaged 537 pounds of butter fat.

Other competitors for this trophy were:

Los Angeles County Farm, average production by eight daughters of King Jones Homestead, 129,493,—532.67 pounds of butter fat. Five of these were barred, however, on account of their breeding records.

C. E. Fisher, average production by four daughters of Silvia Violet's Son, 117,067,—402.30 pounds butter fat.

J. M. Christen, average production by five daughters of Count Sarcastic Aaggie, 114,853,—379.66 pounds butter fat.

Breed Association Trophies.—These were awarded by the Jersey Guernsey and Holstein National Breed Associations for (*a*) highest record of butter fat by a pure-bred cow, and (*b*) highest average record by ten grade cows sired by a registered bull of the respective breed associations. In addition, the Ayrshire Breeders' Association donated a trophy for the highest record by a registered Ayrshire cow, and Alexander & Kellogg gave one for the highest record by a registered Shorthorn cow. The awards were made as shown in Table XIII.

TABLE XIII.—AWARD OF BREED TROPHIES

Breed	Name of Cow	Butter Fat, Pounds		Owner
		Actual	Credit	
A.—Individual Cows				
Jersey	Financial C's Lor. D	689.97	689.97	Bonnikson Bros.
Guernsey	Calla Gr. Itchen May	587.73	675.89	A. B. Humphrey Co.
Holstein	Princess M. Veeman	798.15	941.82	Earl Graham
Ayrshire	Finlayston's Annie L	487.05	487.05	J. Henry Meyer Est.
Shorthorn	Alma	416.62	449.95	J. D. Rowe & Sons
B.—Ten Grade Cows				
	Milk, Lbs.			
Jerseys	10676	513.27	563.53	Nate Hauck
Guernseys	9187	464.35	495.53	Adohr Stock Farms
Holsteins	14039	561.82	648.02	Earl Graham

METHODS OF FEEDING AND HANDLING PRIZE-WINNING COWS

The winners of the prizes awarded in the competition, at the request of the writer, furnished brief statements of the method of feeding and handling their cows, which are given in the following pages.

Bonnikson Bros., Ferndale.—Financial C's Loretta D., 304891, completed her first Register of Merit record on March 18, 1920, with 11,890.6 pounds of milk and 697.34 pounds butter fat to her credit. During this test she was milked twice daily and given box-stall care about six months, or during the wet and coldest weather. The other six months she was out on pasture with the rest of the herd. Her average percentage of fat was 5.86. She began this test at the age of 6 years 11 months. Because she was not due to freshen again until August 18, 1920, she was milked and tested the three following months, making a total of 809.34 pounds butter fat for the lactation period of fifteen months ending June 18, 1920. She was then put in a pen and fed hay until dry, being dry about six weeks. She freshened August 18, 1920, and was entered again for another Register-of-Merit record August 25 at the age of

8 years 4 months, and completed this work with 13,531 pounds milk and 806.23 pounds butter fat. September 1, 1920, she was entered in the California State Dairy Cow Competition and finished her ten months' work with 689.97 pounds butter fat to her credit, for which the American Jersey Cattle Club presented a trophy for the registered Jersey cow making the highest record in the contest.

During the testing period from August 25, 1920, until August 25, 1921, of which ten months were devoted to California Cow Competition, she was milked twice daily and received herd care during the entire test period, being out on pasture with the other cows day and night. During the cold or stormy weather they were either kept in a large shelter shed or the door was left open so that they could go in or out as they would choose.

Besides her pasture she received as concentrates a mixture of two sacks of coconut meal, one of millrun, and one of rolled barley, of which she received a gallon measure when taken in the barn twice a day to be milked; to the grain feed was added some molasses which was never weighed but to the amount that she would readily consume. (See Fig. 6.)

J. W. Coppini, Ferndale.—It is very difficult to explain in an article on "How I Fed My Cows," because no certain method of feeding was followed, this being scarcely the same during two consecutive months.

It is my opinion that cows should be well fed before freshening. The best of judgment is required at this particular time, to guard against the various troubles most likely to occur, such as milk fever, udder trouble, impaction, etc. After freshening, the cows were turned on to pasture, or green grass was cut and fed in the barn. Some grain was fed twice a day, usually a mixture of coconut, beet pulp and either rolled barley or rolled oats. For several months the above mixture was moistened with molasses diluted with water. This was used more as an appetizer than anything else, as quite often when the cows were getting all the green grass they wanted they cared very little for grain.

As the summer advanced the grass got stale, then hay had to take its place until roots were ready to feed, when oxheart carrots were fed until the last of October, starting with about 30 or 40 pounds per day per cow and increasing to the double amount in about four or six weeks. After the carrots were gone, stock beets were fed along with hay. The grain ration continued throughout the season, giving about 8 to 10 pounds per head daily. Noble's Sayda Polo, being the heaviest producer, received from 12 to 15 pounds daily. The molasses was discontinued in November. The cows were all milked twice a day only. They were kept in the barn at night from November 15 during the winter months, but were always turned out in day time. (See Figs. 10 and 12.)

J. D. Early, Grizzly Bluff.—The cows in my herd are all grades, some of them being sired by pure-bred sires, but the greater number by grade sires. They were mostly young cows. There were 16 heifers, 6 of them being under 2 years of age and the oldest but 2 years 1 month of age.

The cows received no special care; they were all milked twice a day and only kept in the barn long enough to be milked. They were dry, on an average, about one month and a half before freshening and were due to freshen about three weeks earlier the next year.

During March, April and May they were pastured on clover and rye grass. During June they were fed green vetch and oats along with pasture. In July they had vetch and oat silage and green vetch and oats; in August they

were fed sweet corn with the silage. During September and October carrots and sweet corn were fed, and in November carrots and beets. Beets were continued during the first 15 days of December and sweet-corn silage was fed the last part of December and all of January and February. Concentrates were fed the whole year around, from 4 to 7 lbs. to each cow daily. The concentrates consisted of 2 parts coconut meal and 1 part barley the first eight months, and straight barley during the rest of the season. During June the cows were fed a pound of molasses daily. They had free access to salt and plenty of water. Oat hay was fed almost all the year.

All the feeds given except the coconut meal and the molasses and a part of the barley were grown on the ranch.

J. A. Genzoli, Loleta.—Regarding the breeding of my cows I will state that I have entered them as "common cows"; that is, common Humboldt County cows. I have never used any pure bred bulls. Nearly all the dairy breeds are represented in my herd, but the Jersey is predominant. I have raised all my cattle and for ten or twelve years past I have never gone outside of my herd for a bull, but I always raised them from my highest producing cows. All this time I have belonged to the Ferndale Cow-Testing Association. I think that this fact more than any thing else contributed to the high production of the cows.

Regarding the handling of the cows that I entered in the competition, I have no special way of doing it. During the month of April I fed my cows about four pounds of concentrated feed a day; two-thirds of coconut meal and one-third of barley meal, with a little hay. They had the run of a good pasture with all the herd. We milk our cows twice a day with a milking machine and strip them clean by hand.

Earl Graham, Compton.—The dairy conditions in our locality are different from most those other people have to contend with. The cows I had in the competition were entered under ordinary dairy conditions, and we fed them about the same as the other cows in the herd. I have five acres of land and 75 head of cattle, all kept in corrals, having no pasture at all. I feed plenty of corn silage. They have access to green alfalfa and hay, and I feed my grain in the barn. I feed on the basis of 1 pound of concentrates to from 4 to 3½ pounds of milk. I feed the different cows mostly according to how much they will clean up, and those that are pretty well along in calf I feed according to their milk flow. Most of my cattle are Holsteins, with one or two exceptions. I milk my cows three times a day, which most people do not do. I find that by milking them three times a day there is an increase of about 20 per cent in production.

I think it is important to feed cows well before they freshen, so as to have them in good flesh during the early part of the lactation. I fed the following grain mixture to my cows: 100 pounds of beet pulp, 100 pounds of barley, 100 pounds of bran, 50 pounds of linseed meal, and 100 pounds of coconut meal. Occasionally I add Indian-corn meal. From November to March first, during the cooler months I use the corn meal, but not during the warmer season.[4] (See Fig. 1.)

[4] See "A Princess" (Princess Maida Veeman, the record cow for milk and butter fat production in the competition) in California Cultivator of Feb. 11, 1922.

Dr. H. G. Gross, Eureka.—Back in 1917, I entered a competition and came out at the tail end. We learn by our mistakes, so after that I decided not to make the mistake of not feeding the cows enough. I gave the cows a good supply of a grain mixture composed of coconut meal, barley, oats, and cotton-seed meal. Then they had silage, clover hay, and green feed practically throughout the year. At the start the cows were fed green corn, and after the corn we fed carrots up to about the first of January, when we started in on kale. After the season of kale the cows were turned out to pasture. My ranch is not in the fertile Eel River Valley where most of the Humboldt County dairy ranches are located. I am back in the mountains in a little hole in the ground. My scheme of feeding is different from that practiced in the Eel River section, where they can raise beets. We cannot raise beets where I am located.

The cows were given about 30 pounds of silage and a small amount of green feed daily, the green feed last for dessert. Then they had all the clover hay they could eat. The silage was made of oats and vetches. Corn is uncertain with us. We bought the coconut meal and cotton seed meal and raised the barley and oats ourselves. We fed barley during the early part of the season and when the barley gave out, we substituted ground oats. After we commenced feeding ground oats all the cows increased in production, viz., a pound or two per cow daily. When we fed kale there was a similar increase.

The grain mixture fed was made up as follows: Three parts of coconut meal, three parts of barley (oats later on), and one part of cotton seed meal. The cows had a ration of about one pound of grain to four pounds of milk. There is a difference in cows, of course. Cynthia of Butler Valley, which made the highest record, had very little grain. She was an economical cow, producing 618 pounds of fat on little grain, nearly all green feed, silage and hay. The cows were kept in the barn at night, from November 1 to April 1, being turned out on a dry knoll during the day time. (See Figs. 3 and 4.)

Eight of the prize-winning cows were milked twice a day. The other two were milked three times a day after the first two months; one because she was due to calve ten months after freshening, and the other because she promised rather well and I wanted to try out three-time milking and see the effect. There was apparently an increase of about 10 per cent in milk production in the case of both cows. The cows were dry from a month to six weeks and were fed as well while dry as when in milk, the object being to have them freshen in good flesh. Most of the cows freshened in September and October, but they strung along until February. All were hand milked.

The factors I consider most important in successful dairy farming are: (1) a good bull, (2) generous feeding, especially to dry cows, and (3) kindness.

Fred Hartsook, Lankershim.—The cows entered in the State Dairy Cow Competition were fed and milked three and four times a day. The cows that were milked four times a day were kept in stalls, being turned out into a corral during day time. The cows that were milked three times a day were fed and milked in stanchions, and kept in open corrals at all times when not being milked.

The grain ration fed consisted of 200 pounds of oats; 200 pounds of barley; 200 pounds of bran; 100 pounds of cornmeal; 100 pounds linseed oil meal; 50 pounds of cotton seed meal, and 75 pounds of soy bean meal. The cows were fed green beets a part of the time, dry alfalfa at all times, a little green alfalfa during the summer, and dry beet pulp intermittently with the green beets.

None of the cows were dry over six weeks before freshening and starting upon the test.

Nate Hauck, Alton.—I aimed to have the cows dry two months before they came in, but some of them were such persistent milkers that they did not get but one month's rest and were not in condition to do their best, judging by what they had done the year before, but those that had the long rest milked heavy and tested high. I fed pretty heavy during the dry period, on hay, beets, and some grain to the ones that needed it. Kept the cows in the stable at night during the worst part of winter, which I think helped to keep them in good condition. After they freshened, which was from the first part of March till in June, commenced to increase their concentrates gradually till they were getting about one pound of grain to four pounds of milk given; their concentrates were rolled barley, dried beet-pulp and coconut meal, equal parts. During the first part of the season they had plenty of pasturage, but during May I commenced to cut and feed some green alfalfa; after that was gone, some clover, and then vetch and oats; about the last of July I fed them some sunflowers with a little alfalfa. They did not clean up the stalks of the sunflowers, and did not do as well on them as some other feeds, but they came in at a time when other green feed was scarce. Carrots were ready to be fed about the middle of August, they held up a good milk flow on them, especially when there was a little alfalfa to feed with the carrots. When the green alfalfa was gone I fed vetch and oat hay; carrots held out till December when beets were fed. All green feed was fed in the field till along in December when beets were fed in the stable. The grain was fed evening and morning at milking time. I milked all cows twice a day except one which was milked three times on account of her leaking milk badly. The cows were milked with milking-machine.

P. Iversen, Grizzly Bluff.—My cows were dry from four to six weeks and after freshening were all milked but twice a day all through the year. From April to August they were fed red clover, fed by hand, and concentrates as follows: 4 pounds coconut meal, 2 pounds wheat bran, 2 pounds rolled barley per head daily. From August to the end of the season they received carrots, beets, green corn and good hay, with concentrates as follows: 4 pounds coconut meal, 3 pounds rolled barley, 1 pound cotton seed meal per head daily. This feed was sometimes increased and sometimes decreased a little according to the flow of milk and the test. I figure about 1 pound concentrates to 5 pounds milk and I always try to keep my cows well stabled. (See Fig. 11.)

Los Angeles County Farm, Hondo.—The feeds given our cows that were entered in the State Competition varied according to the schedule given below. Alfalfa hay of a good quality was fed daily in the racks. The average consumption for the entire herd only is known and amounted to 18 to 20 pounds per head daily. The cows received daily, on an average, 25 pounds silage made from field corn cut shortly after passing the roasting-ear stage. They were fed a grain mixture of 6 pounds each of dried beet pulp and —— dairy feed, and 2 pounds of cotton seed meal, in addition to a home mixture, consisting of equal parts of corn meal, coconut meal, ground oats and wheat bran. Two to seven pounds of the home mixture was fed per head daily, according to the individual production. The —— dairy feed is a proprietary mixture guaranteed to analyze as follows: Protein, 17 per cent; fat, 6 per cent; fiber, 8 per cent; ash, 8 per cent.

The cows were milked three times a day and were otherwise handled in every respect the same as the balance of our herd. We are now milking ninety-five cows.[5]

J. Henry Meyer Estate, Watsonville.—Our cows in the competition were dry on the average about four to five weeks before freshening. They were fed the following ration: Alfalfa hay, corn silage, and about one pound of the following grain mixture for each four pounds of milk they produced per day: Ground barley, 400 pounds; coconut meal, 200 pounds; mill-run, 160 pounds; linseed meal, 40 pounds, cotton seed meal, 40 pounds; beet pulp, 200 pounds; salt, 10 pounds; dehydrated lime, 5 pounds.

They were stabled in box stalls at milking time and kept in a lot adjacent between milkings. These cows were milked three times a day. (See Fig. 7.)

J. D. Rowe & Sons, Davis, Lessees.—Alma, our best cow in the competition, will make 500 pounds of butter fat on the complete year's test. She was milked twice a day during the entire test period. She ran with the herd in the field all day and was fed hay and grain at night. Her grain was fed as an economical feed except during the show season, August 15 to November 20, when she was on the road. She was fed about 1 pound of grain to 3 pounds of milk while at home, and 1 pound of grain to 2½ pounds of milk while on the show circuit. Her grain ration at home consisted of about 50 per cent barley, 25 per cent wheat bran, and 12½ per cent each of dried beet pulp and coconut meal. On the road the per cent of barley was reduced somewhat and oats added. (See Fig. 8.)

H. L. Wakeham, Santa Ana.—Jim's Wonder was fed all the alfalfa hay she would eat, in a rack in the corral, and bean straw with molasses sprinkled over it in another rack. Like the other cows in the herd, she had silage made from honey-dip sorghum before her in the corral up to March first, and Indian corn silage the balance of the year (average, about 35 pounds a day), cotton seed meal at the rate of about 1½ pounds daily being sprinkled over it. A grain ration was fed, approximately 1 pound for every 4 pounds of milk; it was composed as follows: dried beet pulp, 3 parts; barley, 6 parts; coconut meal, 2 parts; and wheat bran, 1 part. Green sudan grass and green barley were fed during April and the early part of May, and less silage was then fed. The feeding of green sudan grass continued all summer till November first, a medium feed of 20 to 25 pounds being eaten. Mangels were fed in July, unfortunately too heavy, so that she went off feed and as a result decreased greatly in her production. (See page 207.)

She was milked twice a day throughout the year and kept in the corral all the time except during milking when she was placed in a stanchion in the barn.

DECREASE IN PRODUCTION DURING LACTATION PERIOD

The average production of the cows in the competition for each month of the record period was compiled for those that furnished complete data for nine or ten consecutive months, in order to ascertain

[5] See "Description of Methods of Improving the Dairy Herd at L. A. County Farm," by W. R. Harriman, in California Cultivator, April 9, 1921; also California Cultivator, May 13, 1922.

the rate of decrease in production of milk and butter fat incident to the advance of the lactation. The results for all cows, both pure-breds, grades and common cows that completed the record period, are given in Table XIV; this also shows the percentage decrease in the production of milk and butter fat for each month of the lactation period. Except for the effects of delayed breeding or the failure to breed in the case of about 21 per cent of the number of cows entered (p. 196), it is believed that the production of the cows represents the best dairy practice in California at the present time.

Table XIV.—Decrease in Production with Advancing Lactation, by Months. Totals for All Cows.

Month	No. of Records Included	Average per Cow per Day						
		Milk, Pounds	Diff.	Per Cent	Butter Fat			
					Per Cent	Pounds	Diff.	Per Cent
First	584	47.6			4.31	2.052		
Second	584	47.3	.3	.6	4.23	2.001	.051	2.5
Third	584	43.4	3.9	9.0	4.35	1.888	.113	6.0
Fourth	584	40.0	3.4	8.5	4.41	1.764	.124	7.1
Fifth	584	36.8	3.2	8.7	4.49	1.652	.112	6.8
Sixth	584	33.5	3.3	9.9	4.55	1.524	.128	8.4
Seventh	583	30.8	2.7	8.8	4.66	1.435	.089	6.2
Eighth	568	27.3	3.5	12.8	4.80	1.310	.125	9.5
Ninth	497	24.3	3.0	12.3	4.99	1.213	.097	8.0
Tenth	286	22.0	2.3	10.5	4.93	1.085	.128	11.8

The compilations given in the table show that the cows whose records are included, yielded on the average 47.6 pounds milk (about 5½ gallons) during the first month of their lactation and 22.0 pounds during the last month; the average yield of butter fat being 2.05 and 1.09 pounds for the first and the last month, respectively. During the second month nearly the same production was obtained as during the first month, but from the third month on, a rather regular decrease in production occurred for five or six months, of about 9 per cent in milk yield and 7 per cent in production of butter fat. The decrease in the production of butter fat was somewhat higher during the remaining months of the lactation, averaging about 10 per cent per month. The decrease in production due to advancing lactation obtained for the cows in this competition is similar to that found elsewhere[6] and

[6] Wisconsin Experiment Station Bulletin, 102; Research Bulletin, 26; Geneva (N. Y.) Experiment Station Report, 1886, page 21; Kentucky Experiment Station Bulletin, 106; California Experiment Station Bulletin, 301, page 188.

shows the extent to which good dairy cows fed and cared for according to the best modern dairy methods are able to maintain their production during the progress of the lactation.

Considering the average per cent of butter fat during the various months we note that it is .08 per cent higher during the first month than for the second month, after which time there was a gradual increase of about .10 per cent per month. Ordinarily, the increase in the average fat content of the milk is higher than this during the last month or two of the lactation when the milk flow, as a rule, decreases rather rapidly prior to the cows being dried up. That the average butter fat test during the second month is lower than during the

TABLE XV.—CHANGES IN PRODUCTION AND TEST FROM FIRST TO SECOND MONTH OF LACTATION PERIOD.

Breed	No. of Cows	Milk, Pounds	Butter Fat	
			Per Cent	Pounds
Pure-Bred Holsteins	96	+ .1	−.30	−.207
Pure-Bred Jerseys	61	+ .7	+.14	+.085
Other Pure-Bred Cows	34	−1.6	+.04	−.055
Grade Holsteins	161	−1.2	−.32	−.213
Grade Jerseys	132	+ .5	+.20	+.107
Grades of other Breeds	57	−1.3	−.11	−.102
Mixed Grades or Common Cows	43	+ .2	+.07	+.041
Pure-Bred Cows	191	− .1	−.10	−.056
Grades and Common Cows	393	− .5	−.07	−.053

first month is mainly due to the influence of the pure-bred and grade Holsteins included in the compilation. The only other group that showed a similar decrease at this stage of the lactation was the Ayrshire, Shorthorn and Guernsey grades. The changes in the milk and butter fat yields and the butter fat test for these two months for the various groups of cows formed for the purposes of these compilations will be seen from Table XV.

There is a definite relation between the quality of the milk yielded by many dairy cows, as regards its fat content, during the entire lactation period and especially during the first month, and their body conditions at the time of freshening. Cows in a fat body condition at calving time will produce milk of a higher fat content directly after parturition and the average fat content of their milk for the entire lactation will be higher than is the case when they are in poor flesh at the beginning of lactation.[7]

[7] Wisconsin Station Report, 19, page 117; 20, page 114; Missouri Station Bulletin, 100; Storrs (Connecticut) Station Bulletin, 94; Jr. Dairy Science, V (1922), pp. 22–26.

The practice of feeding dry cows liberal fattening rations before they "come in," preparatory to placing them on official or yearly tests after freshening, has been adopted by many breeders of Holstein cattle, and Holstein cows seem to have a special faculty to "put on flesh" at this time. The pure-bred and the grade Holsteins in the competition were the only cows (except to some extent grades of other breeds), that showed a decrease in the average fat content of the milk from the first to the second month, indicating that this is a breed characteristic and not found to any appreciable extent at least in representatives of other breeds. It is of value mainly in connection with short-time tests conducted immediately after freshening, but also, as suggested, because it insures a milk secretion of the highest fat content which the cows are capable of producing, during the entire subsequent lactation.

GENERAL DISCUSSION

The object of the Dairy Cow Competition described in the preceding pages was similar to that of the competition conducted by the College of Agriculture in 1916–18, to demonstrate the value of production records of dairy cows and the possibilities of good cows, whether pure-bred or grade, for a large dairy production under the conditions present in this state. It was conducted as a phase of the educational work of the College for the advancement of the dairying industry of the state. It is gratifying to note that the results fully came up to the expectations of those responsible for its planning and conduct, and that it greatly exceeded the former competition in the number of cows entered, the number of participating dairymen and breeders, and the number of high records reached by the cows. The competition created great interest among dairy farmers and breeders of dairy cattle in all parts of the state who followed closely its progress as the results were made public from month to month. There was a friendly rivalry among the participants to reach distinction as to high production records both for the various months and for the complete record period.

As has been previously stated, never in the history of our dairy industry have so many high records of production been secured in a breed contest or a dairy cow competition, as in the one here reported. It is shown that pure-bred dairy cows raised and developed in this state rank with the best found elsewhere and it is, therefore, not necessary to go outside of the state for breeding stock unless it is considered of importance to secure some of the blood of special families not represented here. That cows of the various breeds of the highest type and productive capacity are found within our borders will be

readily seen from the results obtained in the two state competitions now completed and from an examination of any of the leading dairy herds in the state.

The value of a State Dairy Cow Competition is not, however, limited to the opportunities it affords breeders of pure-bred cattle to establish high production records and to obtain the benefit of the advertising that such records carry with them. It has a more important value to the vast majority of dairy farmers who have no pure-breds and who but rarely know how much their individual cows are producing or how a maximum production may be secured from them. To these dairymen the results of production tests of grade and common cows are of primary interest and importance. They suggest the possibilities for improvement of their own herds and resulting increased returns for their labors. Records made by cows in herds in one's own community carry special weight in this respect. Frequently results obtained with their own cows often come as a surprise to farmers and through the stimulus these afford they lead to better feed and care for all promising cows in their herds. Striking examples from this and earlier competitions conducted in our own state and elsewhere might be cited showing that many dairy farmers and breeders trace their success in the dairy business to the knowledge gained in the competition and the incentive toward improvement which this furnished.

The records of production of grade and common cows that were secured in this competition were truly remarkable, amounting in the case of a large number of cows to over six and even seven hundred pounds of butter fat in ten months, and in the case of ten cows in the herd, they averaged over five hundred pounds. They illustrate in a striking manner the possibilities of improvement through liberal feeding, disposal of low producers, and breeding to good pure-bred dairy sires. These means may be readily adopted by any one ambitious to secure the best returns for his labors, but no permanent success can be reached except through painstaking, systematic practices, including a knowledge of the individual requirements of each cow. The results of such efforts are evidenced in most of the herds represented in the competition, and a study of the dairy methods adopted by their owners given in this bulletin should well repay both inexperienced and old dairymen. It is hoped that the teachings of this competition and the enthusiasm for good cows that it created will prove a powerful aid in advancing the dairy industry of the state, and in making dairy farming a good business to follow here, one that will give adequate returns measured in human contentment and happiness, as well as in increased prosperity.

APPENDIX

Note.—Ayr., Ayrshire; G., Guernsey; H., Holstein; J., Jersey; Sh., Shorthorn; Gr., grade; M., mature cow.

B, barred from competing for prizes on account of breeding record.

The record period is ten months (305 days) in all cases, except when otherwise stated in footnotes.

TEN-MONTH RECORDS, CALIFORNIA STATE DAIRY COW COMPETITION, 1920-22

Owner and Name of Cow	Breed	Age		Days in Milk at Beg. of Record	Milk, Lbs.	Butter Fat		Credit for Butter Fat, Lbs.
		Yr.	Mo.			Ave. %	Lbs.	
Adohr Stock Farms, Van Nuys								
Leola of Sunny Slope 2d, 60046	G.	5	9	5	9641	5.60	539.74	539.74
Yeksa Martin, 57711	G.	6	7	5	9015	5.15	463.97	463.97B
Loraine's Princess of Atk., 55060	G.	6	0	82	7342	5.68	417.30	417.30
Marie of Golden G., 76800	G.	3	4	12	7094	5.29	374.99	442.49B
Daisy of Sunny View, 49002	G.	7	1	5	6566	5.50	360.91	360.91[1]
Lulena, 56762	G.	5	11	19	6212	5.66	351.53	351.53[2]
Princess Elsie of B. A., 47855	G.	7	6	5	7305	.....	289.31	289.31[3]
Ramona'a Pride of Adohr, 88950	G.	2	10	5	5911	5.57	329.23	408.25
Miss Nancy of Sunny Sl., 60045	G.	5	7	105	3800	6.62	251.43	251.43B
Vera of Golden Gl., 76799	G.	3	7	6	4973	4.95	245.01	281.76
May Queen of Adohr, 90313	G.	2	4	5	4474	5.16	230.70	299.91B
C-269	Gr. G.	.....	.....	5	11903	4.48	532.94	532.94[4]
C-319	Gr. G.	.....	.....	5	9710	5.36	520.19	520.19B
6-60	Gr. G.	M	.....	5	10121	5.05	511.27	511.27B
C-210	Gr. G.	.....	.....	5	11759	4.13	485.90	485.90
C-26	Gr. G.	.....	.....	5	8766	5.51	482.60	482.60
C-329	Gr. G.	.....	.....	5	8541	5.50	469.40	469.40B
C-33	Gr. G.	M	.....	5	8176	5.54	445.71	445.71B
C-113	Gr. G.	M	.....	6	9974	4.36	434.98	434.98
C-9	Gr. G.	.....	.....	5	9102	4.63	421.63	421.63[5]
C-443	Gr. G.	2	5	5	7318	5.67	414.88	539.34
C-46	Gr. G.	M	.....	5	8543	4.84	413.11	413.11[6]
C-235	Gr. G.	.....	.....	7	10597	3.85	408.78	408.78
C-338	Gr. G.	.....	.....	5	8526	4.76	405.65	405.65
C-2	Gr. G.	.....	.....	7	8572	4.66	399.74	399.74B[2]
C-263	Gr. G.	.....	.....	5	9549	4.16	397.53	397.53
C-466	Gr. G.	2	10	5	8176	4.83	395.31	490.18B
C-343	Gr. G.	.....	.....	5	8803	4.47	393.70	393.70[7]
C-170	Gr. G.	.....	.....	5	9515	4.10	389.87	389.87[8]
C-310	Gr. G.	.....	.....	5	9758	3.99	389.42	389.42
C-469	Gr. G.	2	7	5	7394	5.21	385.26	477.72B
C-392	Gr. G.	.....	.....	10	7697	4.97	382.33	382.33
C-345	Gr. G.	.....	.....	5	7120	5.32	378.70	378.70
C-421	Gr. G.	M	.....	5	7212	5.23	377.49	377.49
C-22	Gr. G.	M	.....	5	8357	4.42	369.65	369.65[9]
C-4	Gr. G.	M	.....	6	10191	3.55	361.98	361.98

[1] 243 days; [2] 273 days; [3] 300 days; [4] 283 days; [5] 302 days; [6] 303 days; [7] 256 days; [8] 294 days; [9] 276 days; [10] 231 days; [11] 255 days; [12] 286 days; [13] 233 days; [14] 257 days; [15] 275 days; [16] 267 days; [17] 242 days; [18] 289 days; [19] 266 days; [20] 253 days; [21] 291 days; [22] 245 days; [23] 295 days; [24] 212 days; [25] 206 days; [26] 258 days; [27] 263 days; [28] 285 days; [29] 272 days; [30] 297 days; [31] 278 days; [32] 250 days; [33] 265 days; [34] 298 days; [35] 271 days; [36] 262 days; [37] 293 days; [38] 292 days; [39] 241 days; [40] 280 days; [41] 281 days; [42] 261 days; [43] 274 days; [44] 244 days; [45] 211 days; [46] 277 days; [47] 217 days; [48] 238 days; [49] 301 days; [50] 268 days; [51] 260 days; [52] 237 days; [53] 264 days; [54] 269 days; [55] 279 days; [56] 296 days; [57] 299 days; [58] 239 days; [59] 287 days; [60] 240 days; [61] 191 days; [62] 248 days; [63] 259 days; [64] 216 days; [65] 304 days; [66] 219 days.

TEN-MONTH RECORDS, CALIFORNIA STATE DAIRY COW COMPETITION, 1920-22—(*Continued*)

Owner and Name of Cow	Breed	Age		Days in Milk at Beg. of Record	Milk, Lbs.	Butter Fat		Credit for Butter Fat, Lbs.
		Yr.	Mo.			Ave. %	Lbs.	
C-248	Gr. G.			5	8217	4.40	361.70	361.70B
C-459	Gr. G.	2	6	6	7438	4.80	357.36	443.13
C-115	Gr. G.	M		5	7683	4.57	350.80	350.80[10]
C-93	Gr. G.			5	6471	5.42	350.51	350.51[11]B
C-86	Gr. G.	M		5	8277	4.23	350.08	350.08[12]
C-88	Gr. G.	M		5	6716	5.21	349.92	349.92[13]
C-461	Gr. G.	2	8	5	6262	5.46	341.95	424.02[4]
C-457	Gr. G.	2	8	5	6081	5.55	337.26	418.20[6]B
C-446	Gr. G.	3	2	5	5610	5.98	335.71	396.14
C-29	Gr. G.	M		5	7301	4.54	331.01	331.01[14]
C-397	Gr. G.	M		5	7214	4.56	328.95	328.95B
C-418	Gr. G.	2	5	5	5607	5.65	316.85	411.91
C-460	Gr. G.	2	3	5	6867	4.61	316.42	411.35
C-163	Gr. G.	M		5	7027	4.41	309.96	309.96[11]
C-8	Gr. G.			5	7542	4.02	302.88	302.88
C-468	Gr. G.	2	2	5	5885	4.74	279.13	362.87[15]
C-23	Gr. G.	M		5	6192	4.42	273.83	273.83B
C-16	Gr. G.	M		5	5564	4.74	263.78	263.78[16]
Arden Certified Dairy, El Monte								
No. 982	Gr. H.			15	14708	4.40	647.76	647.76
No. 865	Gr. H.			7	12707	4.08	518.45	518.45
No. 241	Gr. H.	10		29	12179	4.25	517.06	517.06[17]
No. 164	Gr. H.			5	11980	4.30	514.60	514.60
No. 68	Gr. H.			31	13751	3.57	490.66	490.66B
No. 203	Gr. H.			30	8825	5.43	478.83	478.83
No. 236	Gr. H.			80	8654	5.41	468.41	468.41B
No. 249	Gr. H.			5	10711	4.04	432.77	432.77[18]
No. 48	Gr. H.			6	12880	3.49	449.89	449.89
No. 902	Gr. H.			5	10120	4.26	431.28	431.28
No. 910	Gr. H.			5	10903	3.93	428.67	428.67
No. 35	Gr. H.			15	11457	3.74	428.31	428.31
No. 880	Gr. H.			5	10420	4.05	422.34	422.34[19]
No. 252	Gr. H.			11	10979	3.83	420.55	420.55
No. 79	Gr. H.			105	11030	3.80	419.08	419.08
No. 976	Gr. H.			60	9584	4.27	409.63	409.63[20]B
No. 82	Gr. H.			60	9328	4.39	409.56	409.56[2]
No. 981	Gr. H.			6	11652	3.49	406.67	406.67B
No. 925	Gr. H.			50	10130	3.96	401.63	401.63
No. 202	Gr. H.			43	7974	4.89	389.65	388.65
No. 89	Gr. H.			71	8131	4.76	387.36	387.36[21]
No. 225	Gr. H.			50	8890	4.32	383.67	383.67[2]
No. 188	Gr. H.			26	9300	4.13	383.66	383.66[22]
No. 220	Gr. H.			24	9864	3.89	383.28	383.28[23]
No. 63	Gr. H.			190	8464	4.46	377.46	377.46B
No. 54	Gr. H.	2	6	5	8412	4.42	371.44	460.59
No. 57	Gr. H.			47	9424	3.94	371.40	371.40B
No. 963	Gr. H.			86	7095	4.89	346.83	346.83[1]
No. 970	Gr. H.			10	9703	3.52	341.24	341.24[24]
No. 968	Gr. H.			6	8343	4.06	338.55	338.55[24]
No. 233	Gr. H.			120	7176	4.64	333.28	333.28
No. 222	Gr. H.			52	7540	4.36	328.74	328.74[22]
No. 942	Gr. H.			6	8012	4.06	325.64	325.64
No. 108	Gr. H.			131	6186	5.22	322.65	322.65[16]B

TEN-MONTH RECORDS, CALIFORNIA STATE DAIRY COW COMPETITION, 1920-22—(*Continued*)

Owner and Name of Cow	Breed	Age		Days in Milk at Beg. of Record	Milk, Lbs.	Butter Fat		Credit for Butter Fat, Lbs.
		Yr.	Mo.			Ave. %	Lbs.	
No. 34	Gr. H.			86	9807	3.54	315.12	315.12[1]
No. 971	Gr. H.			67	6642	4.69	311.26	311.26[1]
No. 28	Gr. H.			8	8941	3.16	282.59	282.59[22]B
No. 992	Gr. H.			125	5817	4.25	247.32	247.32[25]
No. 890	Gr. H.			102	5311	4.24	225.35	225.35[16]B
No. 19	Gr. H.			120	4902	4.35	213.14	213.14[26]B
Anita M. Baldwin, Santa Anita								
Mabel Aouda, 178730	H.	8	10	5	20198	3.39	682.51	682.51B
Anoakia Gelsche Pont. W., 405699	H.	3	2	5	18997	3.46	658.39	776.90B
Anoakia Walker Pont., 448042	H.	2	11	5	18358	3.38	620.94	769.97
Lady Lilith Walker De K.,571156	H.	2	8	12	16619	3.57	593.22	735.59[22]
Thelma Riverside Walker,446092	H.	3	2	5	14759	3.53	520.52	614.21[23]
Ellen Walker Hartog, 541747	H.	2	5	6	13439	5.56	479.01	622.71[12]
Anoakia Walker Johanna, 400148	H.	3	4	5	12207	3.54	432.16	506.95B
Anoakia Riverside 2d, 446755	H.	2	7	5	10050	3.69	371.02	460.06B
Dean Beeman, Woodland								
Jacobina, 245278		8	3	5	21886	3.07	672.03	672.03
Capunista, 245279	H.	7	3	5	19149		643.50	643.50
Johanna Heng. Capuna, 345454	H.	4	10	10	18434	3.33	613.93	644.62
Jean NaDean De K, 592442	H.	2	7	126	16384	3.32	544.58	675.28
Bernice NaDean De K., 592441	H.	3	2	5	16607	3.18	528.29	623.38
Queen NaDean De K., 682942	H.	1	11	5	16006	2.80	448.94	583.62
Betty NaDean De K., 636475	H.	2	1	5	12169	3.69	448.67	583.27
Bylaria, 159714	H.	10	3	5	11040	3.59	396.46	396.46[27]
Myrtle NaDean De K., 666146	H.	2	2	13	9585	3.36	322.20	418.86
Berylwood Stock Farm, Hueneme								
Romeanna Douwe, 209866	H.	9	0	9	19313	3.31	638.87	638.87B
Fay Tritomia Heng. W., 411140	H.	3	7	5	17441	3.64	635.30	730.60
Douwe Pontiac, 376870	H.	3	10	5	16851	3.66	617.30	709.89
Eugene Biondini, Ferndale								
Shortie's Best	Gr. J.	6		5	9882	6.20	612.71	612.71
Rachael	Gr. J.	6		8	11735	5.15	603.88	603.88
Brownie	Gr. J.	6		5	11305	5.33	602.66	602.66
Rosalie	Gr. J.	5		24	8170	6.84	558.68	558.68[28]
Midget	Gr. J.	6		5	9597	5.68	545.04	545.04[19]
Twinnie	Gr. J.	4		17	9756	5.58	544.52	626.20[28]
Hannah	Gr. J.	4		16	8553	5.98	511.07	587.73[28]
No. 1910	Gr. J.	11		6	10405	4.63	481.50	481.50[28]
No. 62	Gr. J.	7		5	7901	5.98	472.45	472.45[29]
Ruby	Gr. J.	6		9	8167	5.47	446.98	446.98
Dottie	Gr. J.	11		13	8097	4.86	393.54	393.54[9]
Judy	Gr. J.	5		19	7437	5.16	383.62	383.62[22]
Bonnikson Bros., Ferndale								
Financial C's Lor. D., 304891	J.	8	5	14	11504	6.00	689.97	689.97B
Bonnie's Financial Lor., 397486	J.	4	3	5	8697	6.19	538.31	581.38B
Figgi's Loretta of I. J. F., 421258	J.	2	7	45	7892	5.85	461.97	572.85B
Pearly Exile of C. V., 397484	J.	4	4	39	6107	6.02	367.51	396.91B
Cicero's Spotted P., 397482	J.	4	6	5	6677	5.37	357.39	375.26B

TEN-MONTH RECORDS, CALIFORNIA STATE DAIRY COW COMPETITION, 1920-22—(*Continued*)

Owner and Name of Cow	Breed	Age		Days in Milk at Beg. of Record	Milk, Lbs.	Butter Fat		Credit for Butter Fat, Lbs.
		Yr.	Mo.			Ave. %	Lbs.	
N. L. Browning, Hemet								
Segis DeK. Bess, 403729	H.	4	2	5	18186	3.60	655.02	707.42
Burr Farm, Los Angeles								
Zampa Annie L. 2nd., 313383	H.	7	3	33	21579	3.16	681.41	681.41B
Amelia Bona DeK., 182849	H.	10	3	6	20688	3.18	658.23	658.23
Bess Aaggie Cr., 500684	H.	4	5	5	19277	2.95	569.10	614.63
Goshen Snowb. Pont., 323813	H.	4	9	6	17876	3.18	567.23	595.59
Dorothy Kornd. Burke, 420622	H.	3	9	9	19606	2.78	544.40	626.06
Queen of Fairl. Lincoln, 337929	H.	3	10	33	13802	3.87	533.55	613.58
Helm Segis Mead Kornd., 349720	H.	4	0	52	15225	3.46	526.21	605.14[2]
Durasia Canary, 378491	H.	3	11	5	17687	2.93	518.77	596.58
Anoakia Alcartra Segis, 335553	H.	4	4	34	14900	3.35	499.76	539.74B
Canary Fanny S. V., 470286	H.	2	11	5	16048	2.99	480.33	585.61
Lady Veeman H. T., 511246	H.	2	8	7	13361	3.56	475.85	590.05
S. V. K. P. Cantate of S., 466273	H.	2	7	5	13397	3.03	405.92	503.34
J. M. Christen, Pacheco								
Talima DeK. Ormsby, 453350	H.	2	10	5	10579	3.07	324.27	402.10[5]
Comed'a Gelsche W., 506989	H.	2	1	5	8604	3.47	298.19	387.65[30]
Queen Contenta Alc., 453349	H.	2	11	5	9343	3.10	289.55	359.05[23]
Goldy Pont. W. Col., 460382	H.	2	10	6	7175	3.21	240.52	298.25
Frances Lone Oak K., 532291	H.	2	3	5	6775	3.37	227.63	295.92
Snail Sarcastic	Gr. H.	3	8	5	7852	5.36	420.69	483.79
Skylark Sarcastic	Gr. H.	4	8	11	9508	4.33	411.28	431.84
Aralia Pietertje	Gr. H.	3	11	5	10088	3.97	400.66	460.76[31]
Chief Josephine Pietertje	Gr. H.	4	1	5	8487	3.95	334.83	361.62
Arcartra Sarcastic	Gr. H.	4	10	5	7417	4.21	312.23	327.84
Canon Sarcastic	Gr. H.	4	6	5	8022	3.88	311.21	336.11
Clothilde Sarcastic	Gr. H.	4	11	5	7983	3.80	303.53	318.71
Emmy Hengerveld	Gr. H.	2	8	5	7928	3.71	294.00	364.56
Sheep Walker	Gr. H.	1	11	5	7022	3.89	273.24	355.21[28]
Beauty Hengerveld	Gr. H.	3	0	5	7105	3.79	269.09	333.67[23]
Aralia Walker	Gr. H.	2	1	5	6663	3.95	263.52	342.58
Idlewild Walker	Gr. H.	2	1	8	6216	3.82	237.29	308.48
Colantha Hengerveld	Gr. H.	3	0	5	6214	3.32	206.46	256.01[32]
Alcartra Walker	Gr. H.	2	1	5	7175	3.50	251.23	326.60[5]B
Leo Christen, Waddington								
Buttercup	Gr.	5	0	5	9010	5.46	492.36	492.36[5]
Mama Jersey	Gr. J.	12	.....	5	9163	5.34	489.65	489.65[33]
Newberg	Gr. H.	4	.....	5	12105	3.68	445.28	512.07B[18]
Mousie	Gr.	4	.....	5	8250	5.22	430.61	495.20[12]
Roan	Gr.	5	.....	5	9731	4.36	424.30	424.30[34]
Bridget	Gr. Sh.	6	.....	5	8883	4.33	384.80	384.80[3]
Coaly	Gr.	5	.....	5	9704	3.96	384.26	384.26[18]
Lily	Gr.	6	.....	5	8571	4.43	379.82	379.82[35]
Black Beauty	Gr.	7	.....	5	8939	4.21	375.89	375.89[36]
Daisy	Gr.	4	.....	5	7629	4.82	367.63	422.78[4]
Nig	Gr.	4	.....	5	8759	4.09	358.50	412.28[37]
Helene	Gr.	3	.....	5	7619	4.42	337.23	418.17[38]
Blue	Gr.	10	.....	5	8712	3.79	329.83	329.83[39]
Coconut King	Gr. J.	7	.....	5	8398	3.83	321.80	321.80B[8]
Young Lumpjaw	Gr. H.	10	.....	5	9872	3.25	321.23	321.23[39]

TEN-MONTH RECORDS, CALIFORNIA STATE DAIRY COW COMPETITION, 1920-22—(*Continued*)

Owner and Name of Cow	Breed	Age		Days in Milk at Beg. of Record	Milk, Lbs	Butter Fat		Credit for Butter Fat, Lbs.
		Yr.	Mo.			Ave. %	Lbs.	
M. P. Christensen, Norwalk								
Marken Louise, 281431	H.	6	1	5	20171	3.32	668.94	668.94
D. F. Conant, Modesto								
Lady Kate's Rossette, 361239	J.	6	5	5	12492	5.30	661.64	661.64B
Lambert's Glory P., 31831	J.	8	1	5	9593	5.30	508.60	508.60B
The Owl's Nymph, 266873	J.	9	8	6	8499	4.99	424.42	424.42B
Lady Kate's Belle, 391823	J.	5	2	5	8326	5.01	416.76	416.76B
Mamie Owl, 261075	J.	10	1	18	7289	5.41	394.54	394.54
Belle's Goldie, 425337	J.	2	9	14	4607	5.65	260.11	322.54
Pearl's Irish Rose, 445067	J.	2	2	14	5097	4.80	244.44	317.76[2]
Sally's Loretta, 450078	J.	2	2	5	3660	5.74	210.09	273.12
Marguerite Conant, Modesto								
Hecla's Margery, 318730	J.	8	2	5	7481	5.50	411.44	411.44B
J. W. Coppini, Ferndale								
Noble's Sayda Polo, 307199	J.	6	7	14	9120	7.15	652.27	652.27
Olga Fern's Olga, 355244	J.	6	6	5	9604	5.82	559.01	559.01
Olga Fern Smith, 260366	J.	9	7	8	9901	5.42	536.42	536.42
Hazel Marigold of F., 391596	J.	3	11	5	8778	5.47	481.02	553.17
St. Helier's Mabel D., 421981	J.	2	10	5	8202	5.79	475.19	591.29
Chiephena 2nd, 388779	J.	5	1	5	8167	5.52	450.89	450.89
Marigold of Ferndale, 275349	J.	9	0	5	7763	5.61	435.85	435.85
Viva l'America, 421856	J.	3	0	5	5964	5.96	355.52	440.85
Fior's Madi of F., 474640	J.	1	10	5	5524	6.08	336.06	436.88
St. Helier's Easter Lily, 468671	J.	2	1	5	5187	5.51	285.58	371.25
Lady Mc	Gr. J.	15	9	5	11585	4.36	505.21	505.21
S. J. Damon, Ferndale								
Brownie	Gr. J.	8		5	7791	5.42	422.00	422.00
Bertha	Gr. J.	5		5	9285	4.54	421.91	421.91
Bessie	Gr. J.	3		5	6636	6.34	421.02	522.07[12]
Whitie	Gr. J.	7		5	8402	4.93	414.33	414.33[34]
Shorty	Gr. J.	8		5	8334	4.89	407.89	407.89[6]
Nig	Gr. J.	8		5	7103	5.67	402.57	402.57[40]
Pearl	Gr. J.	3		5	6354	5.75	365.62	453.37
Molly	Gr. J.	10		5	8746	4.16	363.59	363.59[3]
Pet	Gr. J.	3		5	6981	4.94	344.69	427.42
Rosie	Gr. J.	2		6	5918	5.53	327.04	425.15
Ruby	Gr. J.	3		5	5859	5.57	326.45	404.80[41]
Beauty	Gr. J.	3		5	5647	5.78	326.35	404.67[31]
Fanny	Gr. J.	2		5	5239	6.20	324.67	422.07
Brindle	Gr. J.	4	9	5	7394	4.38	324.14	340.35[42]
Myrtle	Gr. J.	7		5	7096	4.22	299.19	299.19[35]
R. H. Davis, Modesto								
Ciruela Mechthilde Pont., 406721	H.	3	3	5	13260	3.42	453.18	534.75[35]
Bonita Pontiac, 406720	H.	3	5	5	13385	3.30	442.27	520.69
Ciruela Mechth. Col., 507699	H.	2	3	5	11860	3.64	431.90	561.47[16]
L. A. Driver, Nicolaus								
Queen Pontiac W., 300950	H.	5	4	5	19171	2.93	560.86	560.86
Lady Silver DeK. Kornd., 284462	H.	6	3	5	14227	3.35	476.14	476.14B

TEN-MONTH RECORDS, CALIFORNIA STATE DAIRY COW COMPETITION, 1920-22—(*Continued*)

Owner and Name of Cow	Breed	Age		Days in Milk at Beg. of Record	Milk, Lbs.	Butter Fat		Credit for Butter Fat, Lbs.
		Yr.	Mo.			Ave. %	Lbs.	
Roseland Gelsche W., 287523	H.	6	9	5	14496	3.23	467.55	467.55B
Anthelmo DeK. Burke, 284461	H.	6	7	5	15299	3.03	465.00	465.00B
Lady Silver Gloss DeK., 212800	H.	8	10	5	13111	3.54	464.11	464.11
Pauline Cornucopia W., 375868	H.	3	10	5	14146	3.15	446.17	513.10
Anselmo Snowfl. Cornucop., 300949	H.	6	4	5	13718	3.12	428.55	428.55B
Sadie Creamcup DeK., 405003	H.	4	0	5	13970	3.05	426.41	460.53B
Miss Gerben Col. Fayne, 366162	H.	4	11	5	11391	3.52	401.49	421.56B
W. F. Early, Grizzly Bluff								
Rosy	Gr.	M		5	11570	4.94	571.47	571.47
Little Darling	Gr. J.	6	8	8	10778	5.28	569.54	569.54
Lineback	Gr.	M		5	9316	5.66	527.28	527.28
Pencil	Gr.	M		5	10857	4.53	492.14	492.14
Roamy	Gr.	M		5	12193	3.95	481.38	481.38
Creamcup	Gr. J.	3		5	8823	5.45	480.42	595.72
Butterfly	Gr. J.	M		6	10026	4.79	479.88	479.88
Pet	Gr. J.	4		5	10201	4.57	465.84	535.72
Jack Rabbit	Gr. J.			5	7734	5.93	458.67	458.67
Granny	Gr. J.	M		10	12245	3.71	454.34	454.34
Little Rose	Gr.	4		5	11874	3.82	454.13	422.25
Darky	Gr. J.	M		5	10944	4.14	453.35	453.35
Humboldt Maid	Gr. J.	3		5	8180	5.50	450.04	558.05B
Norene	Gr. J.	M		9	8371	5.29	443.16	443.16
Buck	Gr. J.	M		5	7817	5.62	439.13	439.13
Cripple	Gr. J.	M		5	9484	4.62	438.04	438.04
Black Ward	Gr. J.	M		5	8390	5.18	434.78	434.78
Tell Tale	Gr. J.			5	7881	5.34	420.83	420.83
Brindle	Gr. J.			6	8596	4.85	417.02	417.02B
Annie	Gr. J.	3		14	7913	4.96	392.27	486.42[15]
Dandy	Gr. J.	2		5	6715	5.33	358.09	465.52
Goldie	Gr. J.	M		92	7625	4.41	336.16	336.16[22]B
Golden Beauty	Gr. J.	2		5	5272	6.02	317.54	412.80
Blue Belle	Gr. J.	2		5	4844	6.54	316.97	412.06
M. J. & B. A. Edwards, Ripon								
Sarcastic Dora of M., 155782	H.	9	9	7	20839	3.30	687.71	687.71
Squaw Queen DeK., 221149	H.	7	3	7	16041	3.32	531.88	531.88
Mechthilde Aralia W., 369157	H.	4	11	5	12642	3.34	421.84	442.93B
El Mirador Dairy, Pasadena								
Belle	Gr. H.	5		5	16302	4.06	662.55	662.55
No. 53	Gr. H.	7		5	13829	4.22	584.09	584.09
No. 112	Gr. H.	7		5	11759	4.89	575.90	575.90
No. 129	Gr. H.	8		5	10186	5.29	539.34	539.34
No. 32	Gr. H.	8		12	13347	3.53	471.38	471.38B
No. 93	Gr. H.	6		25	11737	3.97	465.68	465.68
Speck	Gr. H.	10		6	11949	3.78	451.09	451.09
No. 1	Gr. J.	8		15	8354	4.85	409.94	404.94B
No. 109	Gr. H.	8		12	11284	3.48	392.37	392.37[39]
Blue Belle	Gr. J.			45	7743	4.73	366.02	366.02B
Bobbie	Gr. H.	4		11	10274	3.27	335.60	362.45B

TEN-MONTH RECORDS, CALIFORNIA STATE DAIRY COW COMPETITION, 1920-22—(*Continued*)

Owner and Name of Cow	Breed	Age		Days in Milk at Beg. of Record	Milk, Lbs.	Butter Fat		Credit for Butter Fat, Lbs.
		Yr.	Mo.			Ave. %	Lbs.	
C. E. Fisher, Hughson								
Minnesota	Gr. J.	3	1	7	10176	4.89	497.21	586.71
Juliet	Gr. H.	7	.....	5	12445	3.80	473.45	473.45B
Wisconsin	Gr. J.	3	6	5	9304	4.51	419.35	494.83B
Trixie	Gr. J.	7	.....	11	9213	4.12	380.04	380.04
Illinois	Gr. J.	3	4	5	6521	5.43	353.79	417.47
Iowa	Gr. J.	2	6	5	7025	5.01	352.16	457.81
Oregon	Gr. J.	3	3	5	6666	4.96	330.90	390.46
Colorado	Gr. J.	2	5	19	4293	6.13	263.23	342.20
Lady's Lettie of Claremont	Gr. G.	.....	.....	49	6083	4.32	262.87	262.87
Vermont	Gr. G.	2	1	5	5208	5.01	260.72	338.94
New York	Gr. J.	3	0	7	5616	4.56	256.32	317.84[2]
Tennessee	Gr. G.	2	1	24	5613	4.39	246.32	320.22
Indiana	Gr. J.	3	4	27	5702	4.27	243.29	287.08
M. Fortini, Orland								
Silverine Pearl's D, 363607	J.	4	3	5	8870	5.91	518.84	560.34
Jewel of Tintagel, 451901	J.	1	11	5	7315	4.78	349.92	454.90B
S. G. Gambonini, Petaluma								
Jersey	Gr. J.	10	.....	5	8954	5.97	534.52	534.52
Bandera	Gr. H.	4	.....	18	10697	4.42	472.47	543.34
Captain	Gr. H.	5	.....	6	12513	3.65	456.40	456.40
Smith	Gr. H.	5	.....	18	9990	4.24	423.33	423.33
Columbine	Gr. H.	3	6	19	10774	3.59	386.87	456.51
Teresino	Gr. H.	3	.....	16	9428	4.04	380.91	472.33
Teresa	Gr. H.	9	.....	5	9400	4.04	379.92	379.92[3]
Bill	Gr. H.	1	9	5	8918	4.12	368.03	478.44
Primo	Gr. H.	2	1	5	10085	3.61	363.76	472.89
General	Gr. H.	5	0	5	8229	4.40	361.86	361.86[22]
Gambonini & Bolla, Petaluma								
Ayrshire	Gr.Ay.	3	8	12	11197	3.64	407.46	468.58
Franchesca	Gr. H.	4	7	17	9902	3.93	389.26	408.72
J. A. Genzoli, Loleta								
Jill	Gr.	5	0	5	10331	6.39	660.49	660.49
Blue Spot	Gr.	5	11	5	12899	4.86	627.16	627.16
Sarah	Gr.	5	1	5	11791	5.18	610.77	610.77
Dollie	Gr.	4	2	5	10559	5.58	588.94	636.06[43]
Brownie	Gr.	7	9	9	9566	6.05	578.79	578.79
Fannie	Gr.	7	0	5	9954	5.74	570.98	570.98B
Pansy	Gr.	4	9	8	10233	5.55	567.87	596.26
Princess	Gr.	5	11	5	9370	5.80	543.44	543.44
Maggie	Gr.	5	0	6	8651	6.04	522.29	522.29
Josie	Gr.	4	0	5	9073	5.48	496.89	471.42
Star	Gr.	6	0	5	9828	5.06	496.85	496.85
Lena	Gr.	2	8	9	8368	5.84	488.34	605.54
Baby	Gr.	8	0	5	9964	4.82	479.78	479.78
Ruby	Gr.	2	0	5	7140	5.25	375.11	487.64B
May	Gr.	5	11	5	7302	5.05	368.90	368.90[40]

TEN-MONTH RECORDS, CALIFORNIA STATE DAIRY COW COMPETITION, 1920-22—(*Continued*)

Owner and Name of Cow	Breed	Age		Days in Milk at Beg. of Record	Milk, Lbs.	Butter Fat		Credit for Butter Fat, Lbs.
		Yr.	Mo.			Ave. %	Lbs.	
Earl Graham, Compton								
Princess Maida Veeman, 467343	H.	3	5	7	26119	3.06	398.15	941.82B
Gamma Sarcastic of L., 263517 ..	H.	6	11	5	21690	3.48	754.04	754.04
Cora Jarie Pont., 369154	H.	4	0	5	16790	4.11	689.47	792.89B
May Walker G. Kornd, 379540	H.	4	10	5	17701	3.35	592.33	621.94
Miss Segis Pont S., 465746	H.	2	3	6	14773	3.67	542.13	704.77
Rose	Gr.Sh.			48	16117	4.26	685.92	685.92[2]
Tomie	Gr. H.	4		5	16605	3.92	650.88	748.51
Peggie	Gr. J.	4		5	15125	4.12	623.18	716.66
Brownie	Gr. H.	3	4	5	14690	3.99	585.62	691.03
Montana	Gr. H.	M		6	14807	3.92	581.15	581.15[2]
Alice	Gr. H.	2	6	6	14631	3.88	567.94	738.32
Pansy	Gr. H.	4	2	10	12165	4.32	525.59	604.43B[9]
Mand	Gr. H.			32	18195	2.87	522.48	422.48[2]
Black Emma	Gr. H.	5		5	13113	3.98	521.42	521.42[33]
Spot	Gr. H.			19	15593	3.30	515.15	515.15
Pinkie	Gr.Sh.	4		7	12799	3.95	505.34	581.14[44]
Brown Jersey	Gr. J.	5		13	11009	4.49	494.41	494.41[2]
Niger	Gr. H.	M		5	10531	4.45	468.13	468.13[45]
Spencer	Gr. H.			9	11999	3.88	466.85	466.85[46]
Hauser	Gr. H.	M		9	11219	4.16	466.48	466.48[47]
Niger Heifer	Gr. J.	3	5	5	12878	3.58	461.26	544.29
No. 5	Gr. H.	3		14	12078	3.76	454.39	363.44[15]
Belle	Gr. H.	2	2	48	11377	3.88	438.18	569.63
Smithy	Gr. H.	4	6	11	12541	3.38	424.18	458.11[17]
White Emma	Gr. H.	6		5	9867	4.24	418.23	418.23[1]
Valentine	Gr. H.	M		5	10289	3.98	409.36	409.36[48]
Colantha	Gr. H.			115	8603	4.62	397.38	397.39B
No. 21	Gr. J.	M		14	9859	3.71	366.22	366.22B[47]
H. G. Gross, Eureka								
Cynthia of Butler Valley, 309344	J.	7	8	5	12027	5.14	618.65	618.65
Lydia's Valentine, 504975	J.	3	1	6	8985	6.41	575.84	679.49
Cynthia's Raleigh G., 449974	J.	5	7	5	9199	5.53	509.06	509.06
Raleigh's Echo Girl, 434017	J.	2	11	5	8417	6.00	505.05	626.26
Francesca of Eureka, 479276	J.	3	10	5	9630	5.22	502.74	578.15B
Raleigh's Peggy Mabel, 453738	J.	5	2	5	7621	6.41	488.44	488.44[49]
Marion's Fancy Girl, 403445	J.	4	10	5	7873	5.98	470.45	493.98
Golden Eminent's Fancy G., 449980	J.	2	11	5	8068	5.73	462.27	600.95
Raleigh's Frankie Maggie, 434018	J.	2	11	5	8032	5.25	421.88	523.13
Raleigh's Angussie G., 449976	J.	5	0	5	9102	4.54	412.93	412.93[27]
Raleigh's Frankie Tulip, 434019	J.	3	2	6	7276	5.52	401.74	474.05
Gertie's Fairy Tulip, 449977	J.	2	0	5	5983	5.31	317.43	412.66
Raleigh's Fairy Cynthia, 479278	J.	1	10	6	5405	4.98	269.00	349.70
J. B. Harbers, Waddington								
Nellie	Gr. J.	M		5	9143	5.63	514.96	514.96
Daisy	Gr. J.	M		5	7887	5.61	442.72	442.72[36]
Fancy	Gr. J.	4	1	5	8382	5.06	424.44	458.40
Polly	Gr. J.	4	1	5	7818	5.35	418.55	452.03[36]
Champion	Gr. J.	M		5	7131	5.72	408.13	408.13[8]

TEN-MONTH RECORDS, CALIFORNIA STATE DAIRY COW COMPETITION, 1920-22—
(*Continued*)

Owner and Name of Cow	Breed	Age		Days in Milk at Beg. of Record	Milk, Lbs.	Butter Fat		Credit for Butter Fat, Lbs.
		Yr.	Mo.			Ave. %	Lbs.	
Clara	Gr. J.	4	1	5	6745	6.02	406.25	438.75[50]
Brindle	Gr. J.	M		63	6569	6.17	405.37	405.37B
Edith	Gr. J.	M		5	7130	5.51	393.21	393.21[51]
Flora	Gr. J.	4	0	5	6527	5.87	383.10	440.57[50]
Sally	Gr. J.	4	0	5	6989	5.14	359.56	413.49[37]
Bertha	Gr. J.	M		5	7073	5.08	359.15	359.15[10]
Olga	Gr. J.	M		7	6074	5.88	357.26	357.26[15]
Helen	Gr. J.	M		20	6030	5.79	348.89	348.89[22]
Mabel	Gr. J.	3	1	5	5282	6.46	340.99	422.83[52]
Pauline	Gr. J.	3	1	5	5384	5.98	321.90	379.84[43]
Fred Hartsook, Lankershim								
Bessie Snowball DeK., 301028	H.	4	1	7	23544	3.30	777.62	839.83
May Altoona Pontiac, 250073	H.	6	11	5	22629	3.31	748.87	748.87B
Mutual DeK. Johanna, 227405	H.	7	10	5	19038	3.69	702.77	702.77
Parthenia Paul S. 2D, 304004	H.	5	10	8	21926	3.10	680.32	680.32B
Aegis Tubie Col., 234953	H.	7	10	5	20188	3.29	664.28	664.28B
Miss Aaggie Ormsby S., 442877	H.	2	9	5	22072	2.92	644.86	799.63
Athenia Roderick L., 393226	H.	4	4	5	23087	2.77	640.09	691.30
Miss Aaggie DeK. M., 304880	H.	4	2	5	19103	3.27	624.47	674.43
Annie Langtry DeK., 263129	H.	7	0	7	18085	3.18	575.28	575.28
Parthenia Champion, 369085	H.	5	1	21	16575	3.56	589.97	589.97B
Fascination DeK. 2D, 452331	H.	4	0	5	15798	3.45	545.79	627.65B[26]
Junette Heng. Clothilde, 300225	H.	6	2	5	18337	2.91	533.06	533.06[53]
Dora Netherland S., 278387	H.	6	10	5	16458	3.23	531.51	531.51
Sarcastic Blanche Cir. DeK., 444841	H.	3	7	5	16254	3.13	519.01	596.86B[54]
Ciruela Caroline W. DeK., 444843	H.	4	1	5	16858	3.02	509.93	550.72B
Rosamine's Dora Jeeke, 515279	H.	2	0	7	13284	3.52	467.01	607.11
Viola Canary Segis, 253292	H.	5	10	5	15061	2.62	394.02	394.02[1]
Nate Hauck, Alton								
Brindle	Gr. J.	13		5	12887	4.75	612.75	612.75[43]
Brownie	Gr. J.	6		5	11093	5.25	581.95	581.95
Red	Gr.	4		5	10397	5.28	549.29	631.68[51]
Slow	Gr. J.	4		5	10359	5.26	544.94	626.68
Bally	Gr. H.	12		5	13929	3.84	535.35	535.35[12]
Nigger	Gr. J.	4		5	11954	4.48	535.00	615.25[21]
Speck	Gr. J.	6		8	11366	4.59	522.09	522.09[9]
Lily	Gr. J.	4		5	8272	5.69	470.01	540.51[52]
Chub	Gr. J.	5		5	8856	5.03	445.35	445.35[10]
Bird	Gr. J.	6		5	8690	5.05	438.81	438.81[19]
Beauty	Gr. J.	9		5	8032	5.09	408.50	408.50B[53]
Ring	Gr.	3		5	8046	4.89	393.33	487.73[48]
Pet	Gr. J.	3		5	8459	4.59	387.99	481.10[5]
Strap	Gr.	3		5	7564	5.10	384.60	476.90[14]
June	Gr. J.	3		5	6904	4.97	343.11	425.46B[23]
Sleepy	Gr. J.	3		5	7256	4.62	334.94	415.33[55]
Sister	Gr. J.	5		9	5359	5.51	295.46	295.46[22]

TEN-MONTH RECORDS, CALIFORNIA STATE DAIRY COW COMPETITION, 1920-22—(*Continued*)

Owner and Name of Cow	Breed	Age		Days in Milk at Beg. of Record	Milk, Lbs.	Butter Fat		Credit for Butter Fat, Lbs.
		Yr.	Mo.			Ave. %	Lbs.	
C. D. Hayworth, Modesto								
Duchess of Ransom, 338647	J.	7	8	6	8834	5.04	445.22	445.22[29]
Harriet of Rico V., 397324	J.	5	5	5	8604	4.83	415.27	415.27B[7]
Lorna of Rico V., 360977	J.	6	10	5	8153	5.09	415.24	415.24B[22]
Julie of Rico V., 404745	J.	4	5	9	8020	4.81	385.77	416.63B[9]
Diploma's Fancy Polly, 338645	J.	7	7	8	7705	4.56	351.47	351.47[38]
Holly's Dot, 397327	J.	4	7	11	7363	4.19	308.69	324.13[44]
Catharine of Rico V., 439085	J.	3	2	5	6031	4.76	286.91	338.55[39]
Chas. F. Holman, Stockton								
No. 57	Gr. H.	5	.....	55	9817	4.06	398.17	398.17[2]
No. 81	Gr. H.	4	.....	28	8980	4.19	376.39	432.85[6]
No. 54	Gr. H.	6	.....	35	7085	4.16	295.00	295.00[1]
No. 55	Gr. H.	8	.....	29	7883	3.69	290.96	290.96[1]
No. 18	Gr. H.	9	.....	34	7216	3.93	283.75	283.75[1]
A. B. Humphrey Co., Escalon								
Calla Grove Itchen M., 73356	G.	3	9	7	11456	5.13	587.73	675.89
Calla Grove Merry M., 85552	G.	2	10	17	7221	5.26	379.70	470.83B[6]
Peter Iversen, Grizzly Bluff								
Old Jersey	Gr. J.	M	.....	5	9701	5.95	577.54	577.54B
Red	Gr. Sh.	M	.....	5	10457	5.16	539.81	539.81B
Marcella	Gr. J.	M	.....	5	9475	5.47	518.38	518.38[56]
Poor	Gr. J.	4	.....	5	9522	5.55	517.15	594.72[57]
Baby	Gr. J.	4	.....	5	8734	5.84	509.71	586.17
Yellow Jersey	Gr. J.	4	.....	5	8739	5.79	505.88	581.76
Kicker	Gr. J.	M	.....	9	11133	4.48	499.19	499.19
Holstein	Gr. H.	4	.....	5	8928	5.59	498.94	573.78
Freddie	Gr. J.	4	.....	10	8138	5.60	455.93	524.32
Broken Horn	Gr. H.	4	.....	5	8855	4.88	432.43	497.30
Toughy	Gr. J.	4	.....	5	8991	4.72	424.69	488.39
Holstein Heifer	Gr. H.	3	.....	8	7841	5.05	396.18	491.26[22]
Jersey Heifer	Gr. J.	3	.....	8	7381	5.26	388.05	481.18
Old Red	Gr. Sh.	M	.....	8	9138	4.16	379.79	379.79[15]
Black Jersey	Gr. J.	M	.....	5	7964	4.60	366.23	366.23[52]
L. A. County Farm, Hondo								
Whittier Pont. Netherl. 4th, 333324	H.	4	6	6	19431	4.00	777.04	839.20B
Whittier Segis Pont. Mead, 333323	H.	4	4	52	16088	3.48	559.44	604.20B
Sunland Peerless Tulip K., 141658	H.	10	5	5	15455	3.25	502.33	502.33B[58]
Henrietta Luecke Col., 459996	H.	2	9	103	10944	3.23	353.49	438.33B[27]
Princess	Gr. H.	3	0	5	16143	3.99	644.57	799.27
Amador	Gr. H.	11	.....	6	15468	3.82	591.33	591.33
Trinity	Gr. H.	5	11	6	17376	3.37	584.94	584.94B
Blue Bell	Gr. H.	9	.....	5	12663	4.37	553.69	553.69[23]
Blossom	Gr. H.	2	8	5	15804	3.31	522.57	647.98B
Alameda	Gr. H.	4	10	5	14101	3.60	507.09	532.45B
Tuolumne	Gr. H.	6	4	6	16785	2.99	501.18	501.18[8]

TEN-MONTH RECORDS, CALIFORNIA STATE DAIRY COW COMPETITION, 1920-22—(*Continued*)

Owner and Name of Cow	Breed	Age		Days in Milk at Beg. of Record	Milk, Lbs.	Butter Fat		Credit for Butter Fat, Lbs.
		Yr.	Mo.			Ave. %	Lbs.	
Domino	Gr. H.	4	6	5	12780	3.86	493.14	532.59B
Orange	Gr. H.	2	9	6	10696	4.27	457.14	566.85B
Colusa	Gr. H.	3	0	12	11791	3.82	450.53	558.66B
Ventura	Gr. H.	5	0	5	12173	3.68	448.18	448.18B
Madera	Gr. H.	4	2	9	10326	4.16	429.81	464.19[28]
Beauty Homestead	Gr. H.	4	11	5	12549	3.39	427.94	449.34B
Mariposa	Gr. H.	3	3	6	12947	3.24	419.37	494.86
Shasta	Gr. H.	3	0	6	11249	3.50	393.37	487.78[59]
Solano	Gr. H.	10	.....	6	10680	3.65	390.11	390.11
Butte	Gr. H.	4	2	7	10093	3.85	388.71	419.81[36]
Placer..	Gr. H.	4	1	6	10707	3.40	363.53	392.61
Modoc	Gr. H.	3	3	6	8201	3.83	313.96	370.47B[60]
J. Henry Meyer Estate, Watsonville								
Finlayston's Annie L., 36968	Ay.	8	7	5	12175	4.00	487.05	487.05
Bright Eyes of Highl.,38116	Ay.	8	2	5	11110	3.98	442.60	442.60[37]
Substantial's Patricia, 45501	Ay.	5	7	5	9134	4.34	396.25	396.25
Willowmoor Healthfl. D., 42931	Ay.	5	4	5	8942	3.85	343.88	343.88
Baron's Molly, 45502	Ay.	5	11	5	7443	3.82	283.95	283.95B[46]
Guy H. Miller, Modesto								
Gladys of Venadera, 293695	J.	8	4	7	7445	6.40	476.82	476.82
Signora of Venadera, 314384	J.	8	0	6	8326	5.65	470.48	470.48
Ila of Venadera, 359231	J.	4	6	6	7250	6.00	435.13	469.94B
Cameo of Venadera, 449223	J.	2	0	5	5262	6.54	344.11	447.34B
C. L. Mitchel, El Monte								
Blackeye	Gr.	.....	.....	7	10930	3.94	430.10	430.10
Spoteye	Gr.	.....	.....	15	8566	4.84	415.30	415.30[2]
Teola	Gr.	.....	.....	14	6870	6.04	414.81	414.81
Guernsey	Gr. G.	.....	.....	44	8480	4.22	358.01	358.01B
Dolly	Gr.	.....	.....	18	6798	4.43	301.07	301.07[1]
Napa State Hospital, Imola								
Jefferson Wayne Boon, 236173	H.	7	6	7	12090	3.43	414.65	414.65
No. 651	Gr. H.	.....	.....	9	18484	3.60	666.11	666.11
No. 760	Gr. H.	.....	.....	9	18876	3.26	615.74	615.74B
No. 663	Gr. H.	.....	.....	14	15558	3.59	560.05	560.05B
No. 786	Gr. H.	.....	.....	13	15863	3.17	503.17	503.17
No. 370	Gr. H.	.....	.....	8	13516	3.39	458.04	458.04
No. 797	Gr. H.	.....	.....	11	12615	3.59	452.62	452.62
No. 791	Gr. H.	.....	.....	7	13821	2.94	405.88	405.88
Palo Alto Stock Farm, Palo Alto								
ThelmaHartog S.DeK. 4th, 315597	H.	5	7	5	23763	3.32	788.45	788.45B
Alta Papoose, 412861	H.	4	0	5	20834	3.47	720.99	778.67
Kiatta Pont. Pride, 426267	H.	4	2	5	25106	2.83	712.90	769.94B[29]
Irene Segis Pontiac, 368762	H.	4	3	5	20608	3.40	701.39	757.50
Alta Joh. Princess*, 294126	H.	3	11	5	13949	3.67	511.17	574.86[61]

*Died August 9, 1921, from impaction of stomach.

TEN-MONTH RECORDS, CALIFORNIA STATE DAIRY COW COMPETITION, 1920-22—(*Continued*)

Owner and Name of Cow	Breed	Age		Days in Milk at Beg. of Record	Milk, Lbs.	Butter Fat		Credit for Butter Fat, Lbs.
		Yr.	Mo.			Ave. %	Lbs.	
F. F. Pellissier, Whittier								
Princess Tolia W., 303591	H.	5	3	5	17693	3.55	627.67	627.67B
Brudorin, 159707	H.	10	2	5	17017	3.39	577.16	577.16
Mamie Pontiac, 369151	H.	4	0	5	13963	3.92	546.78	628.80
Miss Pontiac Model Pr., 501854	H.	2	4	7	13786	3.14	433.38	563.39
Rosamine's Mamie S. DeK., 478307	H.	2	0	7	10562	3.95	416.82	541.87B
No. 2403	Gr. H.			5	16688	3.99	666.57	666.57B
No. 2479	Gr. H.			5	19784	3.18	629.52	629.52
No. 2640	Gr. H.			39	15910	3.65	580.72	580.72[15]
No. 2065	Gr. H.			5	13915	4.01	557.83	557.83
No. 2722	Gr. H.			5	15431	3.61	557.24	557.24B
No. 2373	Gr. H.			87	12473	4.41	549.64	549.64B
No. 1772	Gr. H.			6	16024	3.39	542.56	542.56
No. 2416	Gr. H.			5	14147	3.55	501.96	501.96
No. 921	Gr. H.			5	12078	4.08	493.01	493.01
No. 1917	Gr. H.			5	13758	3.55	487.96	487.96B
No. 1910	Gr. H.			5	13468	3.62	487.41	487.41B
No. 1899	Gr. H.			27	13018	3.58	466.56	466.56
No. 2150	Gr. H.			5	14682	3.17	465.14	465.14B
No. 2616	Gr. H.	2		22	13838	3.33	460.68	598.88
No. 2589	Gr. H.			28	12298	3.72	457.98	457.98B
No. 1943	Gr. H.			9	12768	3.57	455.46	455.46B
No. 862	Gr. H.			5	10251	4.41	452.47	452.47B
No. 1946	Gr. H.			5	13503	3.32	447.70	447.70B
No. 1681	Gr. H.			39	14543	3.05	444.05	444.05
No. 2620	Gr. H.	2		29	13118	3.11	408.21	530.67B
No. 2064	Gr. H.			62	11497	3.43	394.14	394.14[17]
No. 2642	Gr. H.	2		5	8953	4.29	384.51	499.86B
No. 2661	Gr. H.			21	10922	3.47	377.76	377.76
No. 1492	Gr. H.			5	10526	3.37	355.07	355.07[4]
No. 2066	Gr. H.			5	10375	3.42	354.85	354.85
No. 1989	Gr. H.			5	10125	3.31	334.69	334.69[39]
No. 2432	Gr. H.			60	9638	3.24	312.13	312.13[17]
M. L. Pontoni, Arcata								
Klamath	Gr. J.	7		6	11939	5.52	659.12	659.12
Mabel	Gr. J.	7		5	11165	4.69	523.63	523.63[6]
Arcata Girl	Gr. J.	7		7	10345	4.98	515.69	515.69
Mousie	Gr. J.	6		5	11713	4.25	498.08	498.08
White Tail	Gr. J.	4		5	10317	4.75	489.55	562.98
Beauty	Gr. J.	4		6	9792	4.94	483.99	556.59
Meschini	Gr. J.	5		6	11834	4.01	474.90	474.90
Rolley	Gr. J.	7		6	10778	4.39	473.77	473.77[9]
Belle	Gr. J.	10		6	8314	5.15	428.21	428.21
Margaret	Gr. J.	4		5	9069	4.62	418.77	481.59
Berne	Gr J.	6		6	9524	4.36	414.81	414.81[9]
H. T. Richards, Denair								
Victor's Lady Queen 2d, 339736	J.	7	9	5	10905	5.48	597.20	597.20
Teddy R's Silver B., 382201	J.	5	9	5	10529	5.49	578.02	578.02
Teddy R's Poppy Girl, 337677	J.	6	4	8	9207	6.06	558.07	558.07
Teddy R's Poppy Girl 2d, 436347	J.	2	6	5	8187	5.81	475.86	618.62
Victor's Queen N. 2d, 400132	J.	4	5	5	7829	5.92	463.34	500.40

TEN-MONTH RECORDS, CALIFORNIA STATE DAIRY COW COMPETITION, 1920-22—
(*Continued*)

Owner and Name of Cow	Breed	Age		Days in Milk at Beg. of Record	Milk, Lbs.	Butter Fat		Credit for Butter Fat, Lbs.
		Yr.	Mo.			Ave. %	Lbs.	
Gertie's Son Queen 3rd, 400129	J.	4	9	6	8254	4.84	399.92	419.91
Rioter Lad's Owl, 436343	.	2	7	46	5427	6.68	362.25	449.19
Lad's Lark of St. L., 400133	J.	4	1	10	6274	5.36	336.01	362.89
J. D. Rowe & Sons, Lessees, Davis								
Alma, 577635	Sh.	4	6	5	10553	3.95	416.62	449.95[4]
Greenhill Caroline, 220996	Sh.	6	8	5	8359	3.46	289.17	289.17[1]
Louise, 234678	Sh.	5	9	5	6948	3.84	267.01	267.01[40]
Sarah Westward, 835334	Sh.	2	2	5	6166	3.95	243.71	316.82
Valley Belle 6th, 775692	Sh.	2	3	5	5695	3.94	224.37	291.68
Buttercup's Beauty, 683621	Sh.	3	8	5	5086	4.21	214 18	246.30[56]
Carol, 576317	Sh.	4	2	7	6378	3.35	213.57	230.66
Beggar Maid's Beauty, 775683	Sh.	2	6	5	5281	3.95	208.85	271.51[3]
Glenside Fern, 152956	Sh.	8	0	5	4966	3.94	195.60	195.60[62]
Greenhill Susan, 220999	Sh.	6	8	7	5040	3.78	190.66	190.66[16]
Roan Maud 8th, 731895	Sh.	3	4	5	3965	4.54	180.11	212.53[18]
Island Belle, 574072	Sh.	4	7	5	4962	3.52	174.79	183.53[42]
Betty Clay, 775685	Sh.	2	8	5	4690	3.55	166.80	206.83[63]
Rose Fairfield, 723630	Sh.	3	3	5	3571	3.68	131.47	155.13B[64]
Olga Saxer, Modesto								
Moorland Col. Rose, 380984	H.	3	11	5	23587	3.20	753.75	866.82B
W. Terkelsen, Ferndale								
Christina	Gr. J.	11	0	5	10125	5.24	530.07	530.07[37]
Annie	Gr. J.	4	0	5	9557	5.53	528.26	607.50
Laura	Gr. J.	8	0	5	10832	4.86	526.11	526.11[57]
Amy	Gr. J.	9	.....	5	8979	5.84	523.93	523.93
Lucy	Gr. J.	4	.....	5	9000	5.04	453.57	522.61B
Ethel	Gr. Sh.	4	.....	5	8310	5.37	446.46	513.43[5]
Edna	Gr. J.	4	.....	5	6842	6.39	436.96	502.50[65]
Dinah	Gr. J.	2	3	12	7477	5.28	394.62	513.01[22]
Friday	Gr. J.	8	.....	5	6869	5.65	387.86	387.86[4]
Lina	Gr. J.	13	.....	5	7536	5.11	385.43	385.43
Pale Face	Gr. H.	11	2	5	10444	3.63	379.26	379.26[35]
Babe	Gr. J.	3	1	5	7189	5.27	378.70	469.59[4]
Monday	Gr. J.	3	.....	5	7072	5.32	376.54	466.91
Evelyn	Gr. H.	11	1	5	8053	4.64	373.71	373.71[11]
Yellow	Gr. J.	3	.....	5	6067	5.90	358.17	358.17[3]
J. E. Thorpe, Lockeford								
Silver Pearl of M., 375267	J.	5	7	5	8126	5.96	484.18	484.18
Golden Nehalem Cowslip, 441262	J.	3	.....	12	6638	4.59	304.60	377.71
University of California, Davis								
Cal. Questa Queen, 47988	G.	7	2	5	11580	4.62	535.10	535.10B
Ramona	Gr. H.	6	.....	5	15650	3.41	534.86	534.86
Cal. Cherry, 44640	Ay.	4	.....	5	9402	3.30	309.97	356.47B
H. L. Wakeham, Santa Ana								
Jim's Wonder	Gr. J.	5	7	5	16939	4.70	795.53	795.53
Tony's Perfection	Gr. H.	4	10	5	9887	5.44	537.65	564.53B
Wild Cow	Gr. J.	2	11	5	8115	6.37	519.11	643.70

TEN-MONTH RECORDS, CALIFORNIA STATE DAIRY COW COMPETITION, 1920-22—(*Concluded*)

Owner and Name of Cow	Breed	Age		Days in Milk at Beg. of Record	Milk, Lbs.	Butter Fat		Credit for Butter Fat, Lbs.
		Yr.	Mo.			Ave. %	Lbs.	
Jap	Gr. J.	6		5	10747	4.61	495.17	495.17
Big A	Gr. J.	5	1	7	8109	5.94	481.78	481.78[15]
Brown Jersey	Gr. J.	6		18	9346	4.70	439.65	439.65[28]
R. H. Walrath, El Centro								
Minnie El Centro	Gr. J.	5		5	13198	4.90	646.13	646.13
Guernsey	Gr. G.	7		5	9517	5.17	492.46	492.46
Pansy Brighton	Gr. H.	5		5	11162	4.35	485.37	485.37[16]
Rose	Gr. J.	7		5	11307	3.86	435.92	435.92
Fern	Gr. H.	5		39	9526	4.37	416.34	416.34[B]
Amy Brighton	Gr. H.	1	11	5	9747	4.15	404.47	525.81
Jennie Richards	Gr. Sh.	5		9	8499	4.32	367.43	367.43
Tilly	Gr. J.	6		5	7756	4.53	351.26	351.26[54]
Anne	Gr. Sh.	5		5	6814	4.55	309.95	309.95[66]
G. W. Walter, El Monte								
Lucie	Gr.			11	12245	3.46	423.73	423.73
Gaylord	Gr.			17	6552	5.87	384.29	384.29[2]
White Heifer	Gr.	2	2	32	7394	4.47	330.34	429.44
Warne & Sons, Holtville								
Bessie Abbekerk Col. 2d, 364344	H.	4	1	5	16385	3.07	502.66	542.88
Bertha Pont. Jewel 2d, 358936	H.	6	5	20	13493	3.52	474.70	474.70
Miss Floa Juliana, 373290	H.	3	8	5	13477	3.41	460.89	530.02
Fayette Segis, 244673	H.	7	1	6	12532	3.37	421.97	421.97[63]
Winsor Ranch, Bonita								
Mona's Merry Maiden, 356183	J.	6		7	8995	5.40	486.14	486.14
Teresa	Gr. J.	7	1	5	9534	4.93	470.03	470.03

AWARD OF PRIZES IN THE STATE DAIRY COW COMPETITION, 1920-22

I. *Herd Prizes:* For the highest production of butter fat by ten cows in a herd during ten consecutive months.

	Pounds butter fat	
	Actual	Credit
Class 1—*Jerseys or Guernseys*		
First prize, $200—H. G. Gross, Eureka (J.)	472.15	523.87
Second prize, $150—J. W. Coppini, Ferndale (J.)	456.78	502.79
Class 2—*Holsteins*		
First prize, $200—Fred Hartsook, Lankershim	589.07	634.89
Second prize, $150—Burr Farm, Los Angeles	527.96	599.88
Class 4—*Grades or Cows of Unknown Breeding*		
First prize, $300—Earl Graham, Compton	555.39	642.01
Second prize, $200—J. A. Genzoli, Loleta	568.50	595.22
Third prize, $100—Nate Hauck, Alton	513.27	563.53

II. *Individual Prizes:* For the highest production of butterfat by a cow during ten consecutive months.

	Pounds butter fat	
	Actual	Credit
Class 5—*Jerseys or Guernseys*		
First prize, $100—H. G. Gross, Eureka (Lydia's Valentine, J.)	575.84	679.49
Second prize, $75—A. B. Humphrey, Escalon (Calla Grove Itchen May, G.)	587.73	675.89
Third prize, $50—J. W. Coppini, Ferndale (Noble's Sayda Polo, J.)	652.27	652.27
Fourth prize, $25—H. G. Gross, Eureka (Raleigh's Echo Girl, J.)	505.05	626.26
Class 6—*Holsteins*		
First prize, $100—Fred Hartsook, Lankershim, Bessie Snowball DeK.)	777.62	839.83
Second prize, $75—Fred Hartsook, Lankershim (Miss Aaggie Ormsby Segis)	644.86	799.63
Third prize, $50—Palo Alto Stock Farm (Alta Papoose)	720.99	778.67
Fourth prize, $25—Anita M. Baldwin, Santa Anita (Anoakia Walker Pontiac)	620.94	769.97
Class 7—*Ayrshires or Dairy Shorthorns*		
First prize, $100—J. Henry Meyer Estate, Watsonville (Finlayston's Annie L., Ay.)	487.05	487.05
Second prize, $75—J. D. Rowe & Sons, Davis (Alma, Sh.)	416.62	449.95
Third prize, $50—J. Henry Meyer Estate, Watsonville (Bright Eyes of Highl., Ay.)	442.60	442.60
Fourth prize, $25—J. Henry Meyer Estate, Watsonville (Substantial's Patricia, Ay.)	396.25	396.25
Class 8—*Grades or Cows of Unknown Breeding*		
First prize, $100—L. A. Co. Farm, Hondo (Princess, gr. H.)	644.57	799.27
Second prize, $75—H. L. Wakeham, Santa Ana (Jim's Wonder, gr. J.)	795.53	795.53
Third prize, $50—Earl Graham, Compton (Tomie, gr. H.)	650.88	748.51
Fourth prize, $25—Earl Graham, Compton (Alice, gr. H.)	567.94	738.32

III. *Special Prizes of Registered Bulls and Dairy Apparatus.*

Class 9—Registered Dairy Bull Calves—For the highest average production of butter fat during ten consecutive months by a grade or common dairy herd of less than 25 cows: Choice of a Jersey bull calf donated by Dr. H. G. Gross, Eureka, a Guernsey bull calf donated by A. B. Humphrey Co., Escalon, and a Holstein bull calf donated by Bridgford Holstein Co., Patterson.

	Pounds butter fat	
	Actual	Credit
Nate Hauck, Alton	513.27	563.53
P. Iversen, Grizzly Bluff	475.85	535.53
S. J. Damon, Ferndale	377.56	432.10

Class 10—For the pure-bred dairy herd having the largest proportion of completed records over 300 lbs. butter fat for ten consecutive months: 1 Babcock 24-bottle hand tester, donated by Creamery Pkg. Mfg. Co., San Francisco.

Fred Hartsook, Lankershim ..... 17 records

IV. *Special Cash Prizes.*

Class 11—California Cultivator Monthly Prizes of $25 (or a silver trophy of equal value) for the highest average production of butter fat by five grade cows in a herd headed by a purebred sire, Sept. 1920–Jan. 1922, won by the following dairymen:

	Av. production of butter fat, pounds
Sept., 1920—Chas. F. Holman, Stockton	69.38
Oct. and Dec., 1920; Feb. and Oct., 1921—Earl Graham, Compton	83.26 75.95 62.03 57.73
Nov., 1920, and Jan., 1921—L. A. Co. Farm, Hondo	69.81 78.45
Mar., 1921—F. F. Pellissier, Whittier	75.70
Apr., 1921—J. A. Genzoli, Loleta	83.04
May and Aug., 1920—Eug. Biondini, Ferndale	82.26 71.26
June and Sept., 1921—Nate Hauck, Alton	74.93 59.16
July, 1921—W. Terkelsen, Ferndale	66.16
Nov., 1921—W. F. Early, Grizzly Bluff	48.12
Dec., 1921—Peter Iversen, Grizzly Bluff	48.62
Jan., 1922—M. L. Pontoni, Arcata	43.56

Class 12—For the largest three numbers of complete ten-month records in herds tested by Cow-Testing Association testers, three prizes:

First prize, $100—C. A. Casanova, Ferndale, Ferndale Cow-Testing Association ..... 107 records

Second prize, $75—L. J. Birge, Los Angeles, L. A. Co. Cow-Testing Association ..... 83 records

Third prize, $50—Sam H. Moore, Los Angeles, L. A. Co. Cow-Testing Association ..... 59 records

V. *Trophies and Medals.*

Class 13—For the highest average production of butterfat for one year by herds belonging to a cow-testing association, three silver cups, offered by the Country Life Department of the Sacramento Bee, Sacramento:

	No. cows	Pounds butter fat
a. Herd of less than 25 cows—J. W. Coppini, Ferndale	11	494.39
b. Herd of 26–50 cows—J. A. Genzoli, Loleta	45	444.57
c. Herd of 50 cows or over—J. D. Early, Grizzly Bluff	72	397.12

Class 14—For the highest production of milk during ten consecutive months by a cow, irrespective of her breeding, a silver trophy donated by A. W. Scott Co., San Francisco:

	Pounds milk	Pounds butter fat
Earl Graham, Compton, Princess Maida Veeman, 467343, H.	26,119	798.15

Class 15—For the highest records of (*a*) a registered Jersey cow and (*b*) by ten cows in a grade herd sired by a Jersey bull, two cups offered by the American Jersey Cattle Club, N. Y. City:

a. Highest record by a registered Jersey cow:

	Pounds butter fat	
	Actual	Credit
Bonnikson Bros., Ferndale, Financial C's Loretta D.	689.97	689.97

b. Highest average record by ten grade Jerseys:

Nate Hauck, Alton	513.27	563.53

Class 16—For the highest record by a registered Guernsey cow and by ten cows in a grade herd sired by a Guernsey bull, two trophies, offered by the American Guernsey Cattle Club, Peterboro, N. H.:

	Pounds butter fat	
	Actual	Credit
a. Highest record by a registered Guernsey cow:		
A. B. Humphrey, Escalon, Calla Grove Itchen May	587.73	675.89
b. Highest average record by ten grade Guernseys:		
Adohr Stock Farms, Van Nuys	464.35	495.53

Class 17—For the highest records by a registered Holstein cow and by ten cows in a grade herd sired by a registered Holstein bull, two silver cups, offered by the Holstein Friesian Association of America, Brattleboro, Vt.:

	Pounds butter fat	
	Actual	Credit
a. Highest record by a registered Holstein cow:		
Earl Graham, Compton, Princess Maida Veeman	798.15	941.82
b. Highest average record by ten grade Holsteins:		
Earl Graham, Compton	561.82	648.02

Class 18—For the highest record made by a registered Ayrshire cow, a cup offered by the Ayrshire Breeders' Association, Brandon, Vt.:

	Pounds butter fat	
	Actual	Credit
J. Henry Meyer Estate, Watsonville, Finlayston's Annie Laurie, 36968	487.05	487.05

Class 19—For the highest record by a registered Shorthorn cow, a silver trophy offered by Alexander and Kellogg, Suisun:

	Pounds butter fat	
	Actual	Credit
John D. Rowe & Sons, Lessees, Davis, Alma, 577635	416.62	449.95

Class 20—For the two herds having the largest and next to the largest number of cows producing over 300 pounds of butter fat in ten consecutive months: two silver trophies offered by (*a*) De Laval Dairy Supply Co., San Francisco, and (*b*) California Dairy Council, San Francisco:

a. De Laval Separator Co.'s trophy:
Adohr Stock Farms, Van Nuys ..... 47 records

b. California Dairy Council trophy:
Arden Certified Dairy, El Monte ..... 36 records

Class 21—For the highest average production of butter fat by a grade herd (not less than four cows), all daughters of a single pure-bred sire, a silver trophy offered by the Pacific Dairy Review, San Francisco:

	Pounds butter fat	
	Actual	Credit
Nate Hauck, Alton, eight daughters of Chief Alton, 123772	479.20	508.26

Class 22—For the highest production of butter fat by a Humboldt County cow (all cows winning other individual prizes in the contest to be debarred), three cash prizes offered by the Humboldt County Dairy Farmers Association, Ferndale:

	Pounds butter fat	
	Actual	Credit
First prize, $25—J. A. Genzoli, Loleta (Jill, common)	660.49	660.49
Second prize, $15—L. M. Pontoni, Arcata (Klamath, gr. J.)	659.12	659.12
Third prize, $10—Nate Hauck, Alton (Red, gr.)	549.27	631.68

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